Lucas County

Strategic Implementation Plan

September 2001

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Executive Summary

Introduction

This document represents Acuent's Strategic Implementation Plan for Lucas County. It includes our comprehensive analysis, findings, and recommendations for Lucas County to implement an Enterprise Resource Planning (ERP) system. In the document, we provide Lucas County with the information and tools necessary to make a logical and prudent decision about implementing an ERP system. Furthermore, we provide guidance in the selection, implementation, and maintenance of an ERP solution, including the change management and business process redesign efforts necessary to ensure acceptance of the new system and to maximize its use. We intend this to be a visionary document, detailing the true cost of ownership and providing a base of knowledge for Lucas County to successfully complete its ERP implementation.

Project Approach

The SIP was developed by first understanding Lucas County's existing culture, infrastructure, relevant skill sets, and organizational commitment. This was done by interviewing County employees in the DP/IS, Payroll, Human Resources (HR), and Finance areas that will be impacted. We then analyzed the environment, leveraging our broad ERP implementation experience in the public sector. We validated our understanding and findings with external research, including discussions with respected IT research sources and similar governmental organizations that recently implemented ERP systems. We then developed numerous recommendations to better prepare the County for its planned implementation, as well as tools to continue to evaluate the proper preparation and implementation steps.

Key Findings

The SIP includes numerous recommendations. Some of the more significant recommendations follow:

- Include a full-time Project Manager, Database Administrator (DBA), and Change Management Specialist on the ERP Implementation Project Team.
- Train internal "project leads" in DP/IS and each of the functional areas (HR and Finance).
- Send the Technical Lead and at least one Programmer from the Project Team to technical product training before sending others to user training.
- Send the members of the Project Team from the functional areas to user training for the ERP system.

- Develop succession plans and increase training for Project Team members.
- Increase salaries of DP/IS staff members. Consider larger salary increases for staff members who are farthest below market.
- Consider salary increases for functional staff members named to the Project Team.
- Use a phased approach to the ERP implementation.
- Perform an Organizational Readiness Assessment.
- Acquire new hardware to house the ERP application suite.
- Fill all of the roles on the Project Team with experienced, motivated County employees.
- Employ ERP implementation consulting experts to supplement and complement the work of the Lucas County Project Team.
- Have each of the ERP software vendors perform scripted demonstrations of their products.
- Conduct a comprehensive program of business process redesign in each affected functional area of Lucas County (HR and Finance).
- Execute a focused risk management program as it relates to the ERP implementation. Be sure to consider how organizational decisions could impact the ERP implementation project.
- Perform a self-assessment of risks associated with the ERP implementation.
- Define the scope of the ERP implementation project.
- Use the generic project plans in developing product-specific plans to maintain proper time and scope management of the ERP implementation project.
- Follow the provided quality management plan for product testing.
- Follow the provided change management plan to improve the overall acceptance and effectiveness of the ERP system.

In addition to these key findings, we have estimated the Total Cost of Ownership for an ERP system at Lucas County. The Total Cost of Ownership analysis breaks down annual costs, both one-time implementation and incremental operating costs, over the next four years. As the specific software package has not yet been selected, the Total Cost of Ownership should be used as a budgetary planning tool. The Total Cost of Ownership estimate begins on page 32.

Lucas County's Next Steps

Following the SIP will allow Lucas County to properly implement an ERP system and better leverage the system's capabilities. A fully functional ERP system—combined with the work to prepare for the system—will yield improved practices, procedures, and service delivery for Lucas County. The result will be a single system that integrates data Countywide, provides a foundation for additional services and functionality, and enables reduction of costly overlap while eliminating redundancy and manual data entry. Because of the increase in shared data, the County will be able to leverage a much greater economy of scale.

Conclusion

Lucas County is in a very strong position to begin an ERP implementation. The fact that the County undertook the development of an SIP is a testament to that. The County employees that were involved in developing the SIP are enthusiastic, willing, and motivated to implement an ERP system. Equally as important, County leadership seems committed to invest the proper amounts of time, funding, and resources (internal and external) necessary to make the ERP project a success. The implementation of any major system is an effort to take on with proper planning and strategy. To date, Lucas County has done its due diligence and now has a strategy, approach, and tools to continue in the right direction.

DP/IS Review

Organizational Structure and Resource Assessment

Overview

This section summarizes our findings from the Organizational Structure and Resource Assessment conducted for the Lucas County DP/IS department. These results are based on personal interviews with Lucas County DP/IS managers and employees, information from internal job descriptions, Acuent's experience with other organizations undergoing ERP implementations, and comparisons with IS departments from similar government agencies.

The process of completing this assessment began with personal interviews of several Lucas County DP/IS staff members. Among the interview subjects were Leslie Rhegness, Gary Kleinfelter, Carl Rimmel, J.P. Lagger, Jim Baumgartner, and Martin Limmer. In each interview, we gathered information about the current skills of the subjects and their staff members. We supplemented the information gathered in the interviews with job descriptions, organizational charts, and other information provided by Marianne Lutz.

From all of this information, we determined the current state of the Lucas County DP/IS department. We then compared the department's current state with best practices and trends in similar organizations. This comparison yielded gaps that Lucas County must fill to implement an ERP system effectively. Finally, we recommended methods to fill each of the gaps (below).

Overall, the structure of Lucas County's DP/IS department is sound. The department is organized logically, by functional area (Data Processing, Information Systems (including GIS), and Network). To accomplish the ERP implementation, we do not recommend any changes in the organization of the DP/IS department.

Based on our review of each DP/IS employee's job skills and responsibilities, the department already possesses many of the basic hardware, software, and programming skills necessary to implement an ERP. Equally as important, in general, the staff members seem willing to add to their own skills. This willingness will be critical during a major change initiative such as implementing an ERP.

However, to implement an ERP system effectively, the DP/IS department needs to supplement its talent pool and breadth of skills. Doing so will increase the chances of an effective ERP implementation and will continue to pay dividends in the years to come.

Skill Gap Analysis

The following is an analysis of the current skills of the Lucas County DP/IS staff. We compared these actual skills with the basic skills and knowledge that an IS department should have to begin implementation of an ERP system.

The DP/IS staff at Lucas County possesses the basic skills and knowledge necessary to undertake an ERP implementation. Among the skills and knowledge that are mandatory to implement an ERP—which Lucas County has—are:

- Basic database design
- Data mapping skills—to convert legacy data to new system
- Networking—including setting up communication between Lucas County and its remote sites
- Performing daily backups
- Writing reports
- Writing queries

Lucas County DP/IS staff members also have many of the skills that are preferable when implementing an ERP system. Among these skills and knowledge are:

- SQL Server and/or Oracle expertise
- Visual Basic programming
- Web design and development
- Certified Novell Engineer (Carl Rimmel)
- Certified Novell Administrator (Jennifer Dane)

Many of the Programmers and Programmer Analysts in the DP/IS department specialize in COBOL programming. This expertise will continue to be important for the department for many years. Having COBOL experience on staff will be needed to maintain legacy systems, transfer legacy data, and maintain ancillary systems.

Detailed descriptions of DP/IS department positions begin on page 179.

Recommendations

To effectively implement and support its ERP system, we recommend that Lucas County does the following:

- **Include a full-time Project Manager on the Implementation Team**
  The Project Manager will be the focal point for and the leader of the ERP implementation project, the project team, and subsequent support efforts. He/she will coordinate the work of the project team, facilitate updates and changes, report on progress, and handle problems that may arise. It is preferable for the Project Manager to be an expert in at least one of the functional areas.

- **Include a full-time Database Administrator (DBA) on the Implementation Team**
  The DBA will be an important and necessary presence for the technical side of the ERP implementation. He/she will coordinate and orchestrate the information flow within the ERP system.

- **Include a full-time Change Management Specialist on the Implementation Team**
  Our experience with organizations implementing ERP systems typically causes great stress among the organizations' employees. Simply, people do not like change. A specialist in Change Management can help relieve the stress and create a positive experience for the entire organization. Communication is the Change Management person's main duty—helping each individual and team in the organization to understand what is happening, what it means to them, why it is important, and how it will improve their work.

- **Look within before hiring externally**
  Before looking externally to fill the positions on the ERP Implementation Team, seek out current Lucas County employees who have the skills and demeanor to fill the positions. Keep in mind, however, that the demands on members of the Implementation Team will be great, especially if the team members continue to have the same responsibilities in their "regular" jobs. Consider hiring externally only when there is no one inside Lucas County that has the capacity to fill the position.

- **Train internal "leads" in DP/IS and each of the functional areas**
  Train several DP/IS staff members and at least two staff member from each functional area (HR, Payroll, Accounting, Budget, and the others) to become "leads" in the ERP system. The "leads" would make up the team responsible for sharing information to and from the users. Each of these internal experts must not only gain an excellent understanding of the ERP system, but also be able to communicate the knowledge to others.

- **Either certify at least one DP/IS staff member in the hardware selected for the ERP system or obtain 24/7 service with the hardware vendor**
  In case the ERP system hardware fails, Lucas County needs to have at least one person in-house to handle the problem or call for immediate help. It is even more preferable for Lucas County to have both options—a certified person on staff AND the 24/7 service agreement with the vendor.

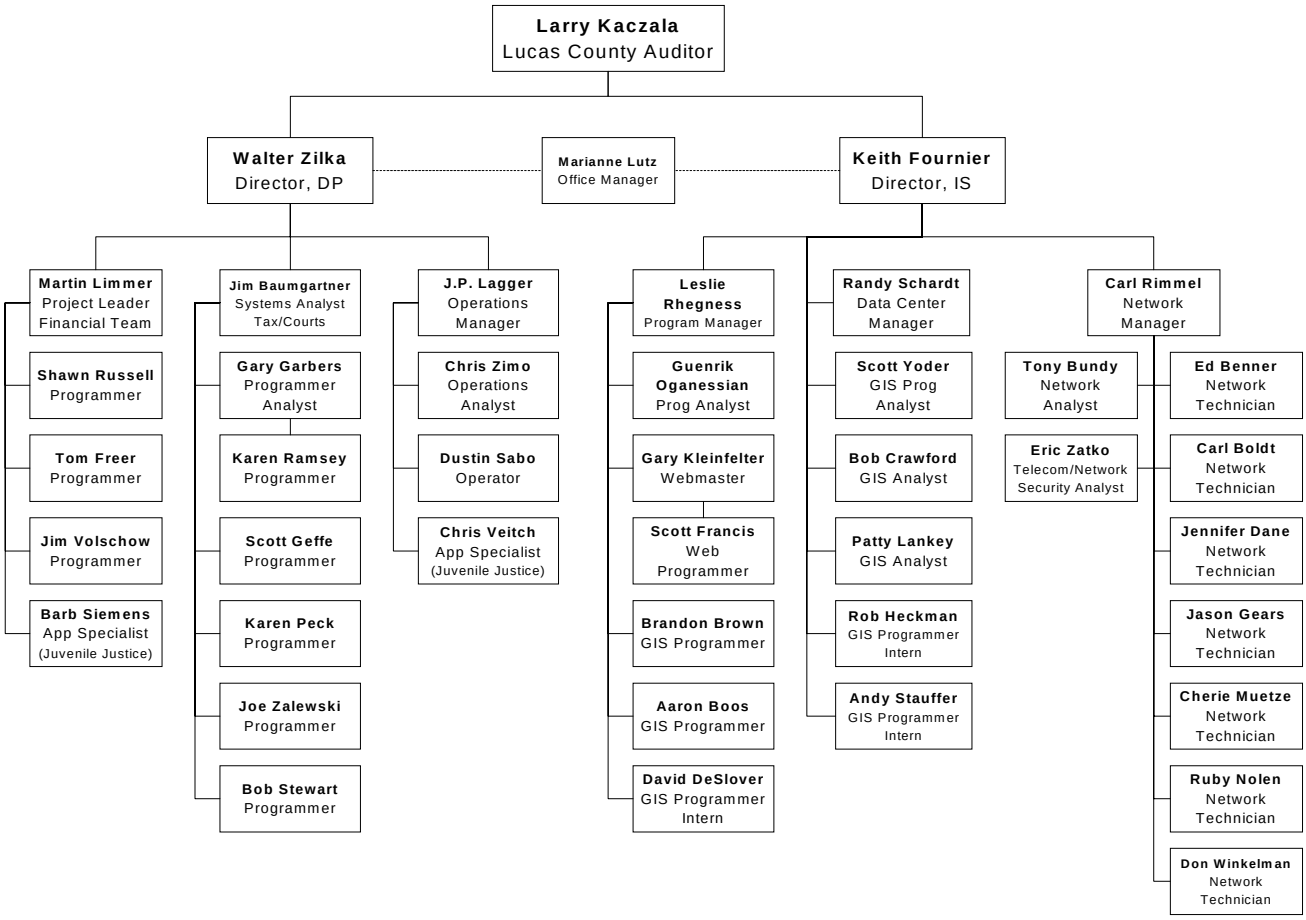
- **Send the Technical Lead and at least one Programmer from the Project Team through technical product training before sending others to user training**
  In our experience with ERP implementations, we have found that it is prudent to send at least one or two technical staff members to product training before the users receive their training. Doing so will give the Technical Lead and Programmer(s) time to get accustomed to the software, its capabilities and limitations, and how it will work in Lucas County. Receiving the training early also allows the technical staff time to plan what the users and other technical staff will need from their training.

- **Send all (or at least most) of the functional members of the Project Team to user training for the ERP system**
  Sending Project Team members to product training allows them to experience how the ERP system works and what it can do for their departments. It also gives them the ability to share their experience with team members, which relates directly to the County's change management program.

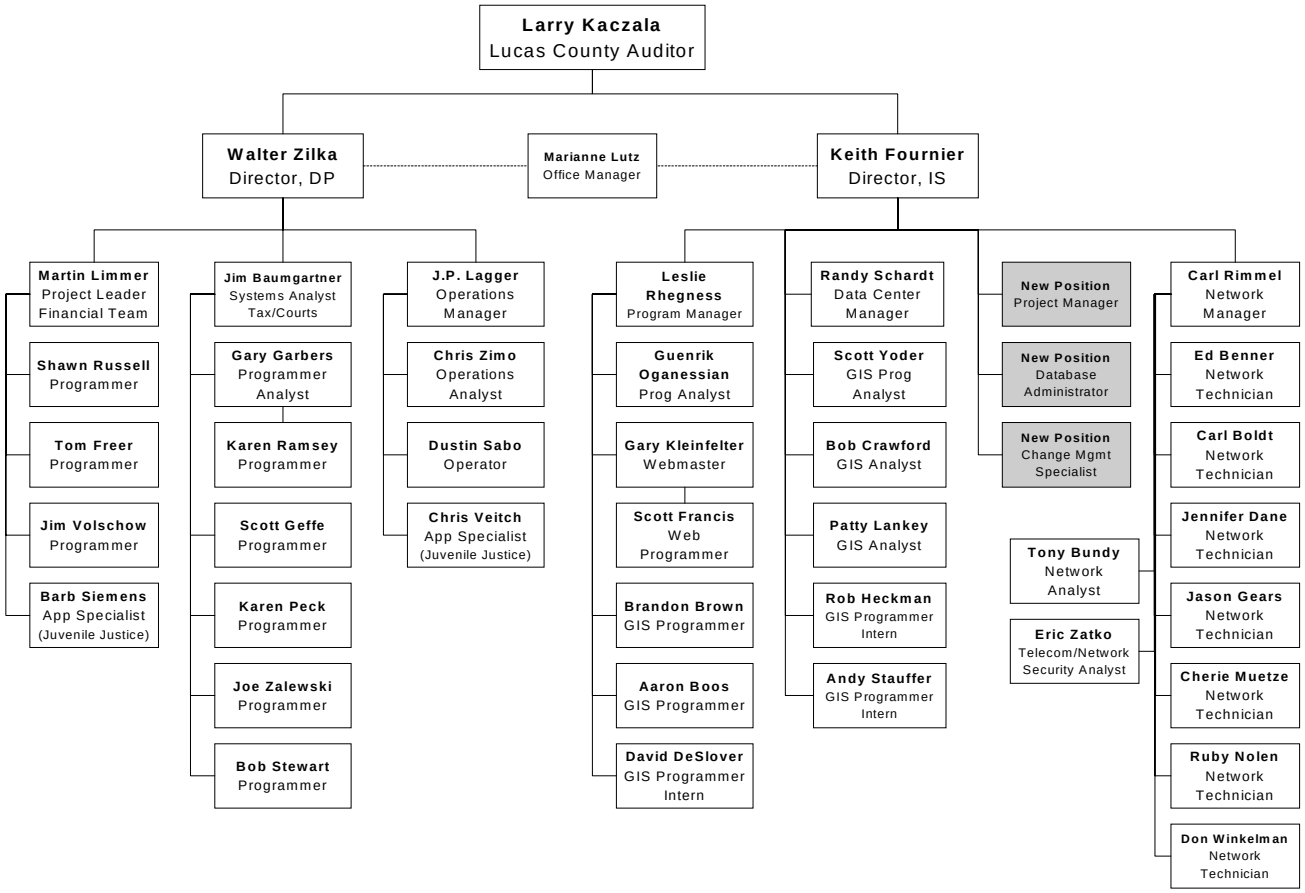
Organizational Charts

The following is the current organizational chart for the Lucas County DP/IS department. On the next page is our proposed organizational chart, including a Project Manager, a Change Management Specialist, and a DBA.

Current Organizational Chart



Proposed Organizational Chart



Analysis of Recruiting and Retention Policies

Overview

This section presents our analysis of and recommendations for the recruiting and retention policies and programs at Lucas County. We concentrated on how the recruiting and retention policies affect the employees of the DP/IS department. These results are based on an interview with Gwen Moore. Gwen represents the Personnel/HR department. She and her staff serve employees of the DP/IS department.

The primary goal of this analysis and our recommendations is to ensure that Lucas County's recruiting and retention policies are sufficient to minimize employee turnover during and after the County's upcoming ERP implementation. From the HR point of view, retaining current staff members will be the key to a successful ERP implementation at Lucas County. Based on our experience, many organizations experience unusually high turnover after implementing ERP systems. Simply, to implement an ERP system, many employees receive additional training and experience which ultimately allows them to develop new, very marketable skills. Often, many of these employees take their new skills to other employers.

Turnover in the DP/IS department has been relatively low recently—between 8% and 12% a year from 1999 to 2001. During conversations with similar county and city governments, we discovered that a few of them did not experience unusual turnover after their ERP implementations. However, these governments had staff members with very long tenure with their organizations. The average for most of these governments is between 12 and 15 years per person. The current average tenure in Lucas County's DP/IS department, however, is five years. This lower amount of tenure makes Lucas County more vulnerable to turnover after the ERP implementation. (For more detail about tenure in the Lucas County DP/IS department, refer to page 191.)

The only programs currently used by Lucas County that relate to and enhance employee retention are employee welfare benefits and scheduled salary increases. Lucas County does not use a formal performance management program or a defined succession-planning program.

Recruiting and hiring talented people is much less problematic for Lucas County. Lucas County is able to attract prospective employees mainly because of the public's perception that the County offers great employee welfare benefits and job security and stability.

Below is a summary of the current Lucas County recruiting and retention policies, including employee benefits and salary increases. Our recommendations follow the summary.

Summary of Recruiting and Retention Policies and Programs

Recruiting / Hiring

Lucas County uses several methods to advertise open positions, including:

- Newspapers—The Blade, La Prienza, and The Journal
- Internet—on the Lucas County Web site
- Local job fairs
- College placement offices

Lucas County's process for receiving and processing job applications is fairly typical:

- Advertise open positions
- Receive resumes and applications—by mail, in person, and by fax
- HR representatives screen applications to ensure each candidate meets minimum qualifications
- Hiring manager/department selects candidates to interview
- Qualified candidates are (typically) called in for one or two interviews
- Before the offer, the Sheriff's office conducts background checks on prospective employees
- Also before offer, the HR department checks the candidates' references
- Candidates are presented to the Board of Commissioners (or other elected official) for approval
- After approval, formal offer made to candidate

Employee Benefits

Lucas County has a very good selection of employee benefits. (The benefits program is the same for every County employee.) Among the benefits are:

- Health insurance—either an HMO or 80/20 plan (premium 100% paid by County)
- Dental insurance (premium 100% paid by County)
- Prescription drug program (premium 100% paid by County)
- Life insurance for employee (premium 100% paid by County)
- Deferred Compensation program
- Cafeteria-style plan for expenses such as day care and reimbursement for medical, prescriptions, dental, and life insurance

Lucas County also offers its employees a variety of "quality of life" programs, including:

- An Employee Assistance Program
- Reimbursement for joining and participating at certain physical fitness centers
- Reimbursement for weight management programs
- Assessments of physical condition through Health Counselors from the University of Toledo
- Health advice and counseling through participating pharmacies

Salary Increases

Lucas County gives regular salary increases to all of its employees. New employees receive an increase in salary after completing their probationary periods—120 days. Thereafter, employees receive salary increases annually, on the anniversary of their last increase.

An annual cost of living adjustment (COLA) is standard for all County employees and is a percentage of each employee's current pay. The Board of Commissioners determines the percentage for annual increases. Lucas County does not currently have any form of merit-based compensation.

Recommendations

- **Ensure salaries are competitive**

  To add to the success of an ERP implementation and into the future, we recommend that Lucas County raise salaries for many of its DP/IS employees and ERP Implementation Project Team members. There are four main reasons to raise salaries:

  1. To close the gap between current salaries and the local job market,
  2. To reward staff members for increasing their skills and responsibilities,
  3. To move the County's DP/IS department toward becoming an "employer of choice" in the local employment market, and
  4. To guard against the risk of DP/IS employees leaving the County after they are trained on the ERP system.

- **Develop succession plans for Project Team members**

  Developing and sharing a succession plan (or career path) with employees is a powerful method to improve performance and reduce turnover. Employees working with a succession plan are generally more engaged and productive in their current work because they know where they are heading in the organization. The succession plan gives them goals to work toward and the feeling that the organization values their contributions.

  At Lucas County, we recommend developing a succession plan for each Project Team member. Each succession plan should be tailored to each individual's skills and career desires. Doing so would increase the likelihood that the team members would remain with the County long after the ERP implementation.

- **Increase training for Project Team members**

  Providing training to employees is another strong method to demonstrate the organization's commitment to them. As part of Lucas County's ERP implementation, the Project Team members will receive training on the ERP system itself. However, the team members should receive additional training, targeted to their work on the Project Team. For example, some team members might attend communication skills training; others might need to develop or improve project management skills.

  Providing training to team members is another way that Lucas County can demonstrate its commitment to its people.

- **Throughout the ERP implementation, have "fun" events for team members**

  Keeping the members of the ERP Implementation Project Team enthusiastic and engaged over the entire project will be difficult. The demands on team members are often great. We recommend making time for creative and energizing events for the Project Team members. At least once a month, have the Project Team come together as a group to celebrate the accomplishments of individuals, sub-teams, and the Project Team as a whole.

  Be creative in developing fun and interesting ways to celebrate the team's work. Employees who receive appreciation and recognition of their work, effort, and accomplishments are much more likely to stay with their employers.

- **Consider installing a Performance Management system for the entire County**

  Using performance management system would help Lucas County reward top performers and identify improvement areas for others. An effective performance management system includes:

  - Developing clear job descriptions.
  - Selecting appropriate people with an appropriate selection process.
  - Negotiating requirements and accomplishment-based performance standards, outcomes, and measures.
  - Providing effective orientation, education, and training.
  - Providing ongoing coaching and feedback.
  - Conducting (at least) quarterly performance development discussions.
  - Designing effective compensation and recognition systems that reward people for their contributions.
  - Providing promotional and career development opportunities for staff members.
  - Assisting with exit interviews to understand WHY valued employees leave the organization.

Organizational Salary Review

The results of our organizational salary review of the Lucas County DP/IS department is published in a separate Microsoft Word document, titled "**LC Salary Review.doc**." This document summarizes our findings and recommendations for the department to prepare for an ERP implementation.

Comparative Analysis—ERP Systems in Other Government Organizations

Overview

This section summarizes our findings from interviews with comparable government organizations that have implemented ERP systems within the last two years. These results are based on personal interviews with IS Managers and Project Managers at the comparable county and city governments. To add another dimension to the research, we included the results of interviews with industry experts in IS and ERP implementations.

All of the government organizations we chose have similar populations, around the same number of employees, and/or similar functional needs as Lucas County. Among the interview subjects are representatives from Mahoning County, Ohio; Butler County, Ohio; Kent County, Michigan; Ramsey County, Minnesota; Dallas County, Texas; and Washington County, Oregon. We also interviewed representatives from two city governments in Ohio: Akron and Cincinnati. Details of these interviews are in the Appendix of this document, beginning on page 193.

Findings

The following is a summary of the major lessons learned and best practices from the government organizations:

- **Include a full-time Project Manager on the Implementation Team**
  Almost every interview subject mentioned the importance of having a key figure—one with project management skills, functional expertise, and leadership skills—to head the ERP implementation. The preference among the government representatives is that the Project Manager should be experienced in one or more of the functional areas.

- **Include a full-time Database Administrator (DBA) on the Implementation Team**
  Most of the government interview subjects said that having a DBA on staff was vital to the success of the implementation and support. This is consistent with our experience in ERP implementations. The industry experts whom we interviewed concurred.

- **Include a Change Management Specialist on the Implementation Team**
  Without an active, effective program for change management, the chances of a poor implementation increase greatly. Most of the government interview subjects stated that helping their organizations' people to understand and deal with the change that an ERP system brings was critical.

- **Develop "lead" people in DP/IS and the functional areas**
  Many of the government interview subjects talked about the need for expertise across the organization—from IS and the functional areas. According to them, in addition to having technical expertise in the IS department, it is equally as important to have two or three project representatives from each functional area—HR, Payroll, Finance, Budget, Accounting, and the others.

- **If needed, increase salaries to compete with the local market**
  Most of the interview subjects cited turnover as a large risk during and after an ERP implementation. Without proper compensation, newly trained employees are more likely to take their skills outside the organization.

- **Consider hiring additional Web design people**
  The latest versions of ERP software use more and more Internet technology and offer greater accessibility for users. One of the government interview subjects and the industry experts cited the need for expanded Web design and use skills to take advantage of the Web functionality.

- **Take a phased approach to implementing an ERP system**
  Industry experts agree with our recommendation that Lucas County should take a phased approach to implementing its ERP system. While a few of the government interview subjects used a "big bang" approach to their implementations, most of the government representatives cited time pressures that compelled them to implement quickly. Almost all of them would have preferred a phased approach.

- **Improve non-technical skills and internal processes to maximize ERP effectiveness**
  The government interview subjects agreed that focusing strictly on the technical side of an ERP implementation is a mistake. According to them, any organization that implements an ERP system must also work to improve its own internal processes (in IS and the functional areas).

- **Use outside help during and after the ERP implementation**
  All of the government interview subjects used outside consultation to supplement their own talent during their ERP implementations and beyond. The norm among them was to have a strong consulting presence when they went live, then tapered off with the consultants after their own internal skills improved. It is very valuable to have third party help during such a critical period.

Human Resources Plan

Project Team—Roles and Responsibilities

Overview

An important element of an effective ERP implementation is to identify Project Team members who will contribute strongly and consistently to the project. Another key element is to define the roles and responsibilities for each of the members of the Project Team.

This document illustrates our recommendations for the positions that Lucas County should include in its ERP Implementation Project Team. We list the roles and responsibilities for each person on the team. We also provide an estimate of the time commitment expected from each team member. These recommendations are a result of Acuent's broad experience with organizations that have implemented ERP systems. We validated our recommendations through interviews with IS Managers and Project Managers at comparable government organizations and information from ERP implementation experts.

Beginning on page 27, we provide organizational charts that illustrate our recommendations for the Lucas County ERP Implementation Project Team. We include charts for each of the four phases of the County's ERP implementation. For each phase, we denote all of the recommended positions to be filled by Lucas County employees and the corresponding positions from the ERP implementation consulting firm that Lucas County will select.

We recommend that in the beginning stages of the implementation (phases I and II), there should be several specialists from the consulting firm for the technical and functional areas within Lucas County. As the implementation progresses (phases III and IV) and the experience of the Lucas County team members grows, consultant participation will decrease.

Furthermore, we recommend that Lucas County consider current staff members for its Project Team roles before seeking new employees externally.

Recommendations

The following are our recommendations for each of the roles on Lucas County's ERP Implementation Team:

Executive Sponsor

Role	The role of the Executive Sponsor is to provide senior management support, remove roadblocks when necessary, and make decisions when issues cannot be resolved at lower levels. The Executive Sponsor also provides guidance and credibility to the ERP implementation project within Lucas County.
Responsibilities	The Executive Sponsor does not have any day-to-day responsibility to the project. However, he or she must be able and willing to understand and communicate the goals and methods of the Project Team to the upper levels of Lucas County leadership. The Executive Sponsor should be a County elected official who can and will promote the benefits of the project at high levels.
Estimated Time Commitment	Very minimal; the Executive Sponsor should attend Project Team meetings periodically to add credence and support to the team's work, as well as receive status updates on the project regularly.

Steering Committee

Role	The Steering Committee's role is to develop a vision for the project's future, to resolve issues that cannot be handled at lower levels, and to ensure adequate resources are available as staffing needs change.
Responsibilities	Members of the Steering Committee help to remove or resolve obstacles to the project's success. The committee members review the status of the project's budget and schedule. They provide guidance to the project manager(s) and advise on the resolution of difficult challenges. They also work to maintain sponsorship and enthusiasm throughout the organization.
Estimated Time Commitment	Typically, only a few hours a week. However, Steering Committee members who also serve as members of the Project Team will have additional time commitments.

Project Manager

Role	The Project Manager is the focal point for and the leader of the ERP implementation project, the Project Team, and subsequent support efforts.
Responsibilities	The Project Manager executes the ERP implementation plan, manages the resources of the Project Team, coordinates the team's work, facilitates updates and changes to the team's work, reports on the team's progress, and handles problems that may arise. The Project Manager should have project management skills and be able to communicate effectively with all levels throughout Lucas County.
Estimated Time Commitment	The person in the Project Manager position must be filled by a fully dedicated resource.

Change Management Specialist

Role	The Change Management Specialist serves as the focal point for all of the organizational change activities that must happen as part of the ERP implementation.
Responsibilities	Communication is the Change Management Specialist's main responsibility—helping each individual and team in Lucas County to understand what is happening, what it means to them, why it is important, and how it will improve their work. Developing an overall training and education plan are also critical components of this role. He or she should have broad experience with organizational development and change and must be an expert communicator—able to speak comfortably with all levels in Lucas County and to write effective communications.
Estimated Time Commitment	The Change Management Specialist position must be filled by a fully dedicated resource.

Technical Lead/DBA

Role	The Technical Lead serves as the focal point for technical issues and is the Information Systems expert for the Project Team.
Responsibilities	The Technical Lead coordinates and leads all of the technical activities on the ERP implementation project. He or she maintains the system's database and ensures the system works properly. The Technical Lead also writes (or assists with writing) queries to access Lucas County information in the ERP system. Write or assist with queries and views—writing reports, creating pages.
Estimated Time Commitment	The person in the Technical Lead/DBA position must be able to work on the project full-time.

Human Resources (HR) Team Lead

Role	The HR Team Lead provides subject matter expertise to the Project Team and coordinates the work of the team's other HR members.
Responsibilities	The HR Lead coordinates and leads all of the HR activities on the ERP implementation project. He or she works closely with the Benefits, Payroll, and Recruiting Representatives.
Estimated Time Commitment	The HR Team Lead must be able to work on the project full-time.

Finance Team Lead

Role	The Finance Team Lead provides subject matter expertise to the Project Team and coordinates the work of the team's other Finance members.
Responsibilities	The Finance Team Lead coordinates and leads all of the finance activities on the ERP implementation project. He or she works closely with the General Ledger, Accounts Payable, Budget, Projects, and Purchasing Representatives.
Estimated Time Commitment	The Finance Team Lead must be able to work on the project full-time.

Programmers (or Programmer Analysts)

Role	There should be at least two Programmer or Programmer Analysts on the Project Team. The Programmers' main role is to provide their expertise to help the team transition from legacy applications to the new system.
Responsibilities	The main responsibility of the Programmers is to convert legacy application systems on the HP mainframe to be used in the new ERP system. They also assist the Technical Lead in developing queries and reports.
Estimated Time Commitment	The Programmers should be able to work on the project full-time.

Web Developer

Role	The role of the Web Developer is to develop and design Web pages to complement the Project Team's work.
Responsibilities	Since the Web capability of ERP systems is increasing, the Web Developer will help the team enable many of its processes online.
Estimated Time Commitment	The Web Developer must be able to work on the project full-time.

Payroll Representative

Role	The Payroll Representative provides subject matter expertise to the Project Team.
Responsibilities	The Payroll Representative adds the user's perspective to the Project Team. This person is also the link between the Project Team and his or her coworkers—sharing ideas from coworkers to the Project Team and reporting the progress of the project to coworkers.
Estimated Time Commitment	The Payroll Representative should be able to work on the project full-time.

Benefits Representative

Role	The Benefits Representative provides subject matter expertise to the Project Team.
Responsibilities	The Benefits Representative adds the user's perspective to the Project Team. This person is also the link between the Project Team and his or her coworkers—sharing ideas from coworkers to the Project Team and reporting the progress of the project to coworkers.
Estimated Time Commitment	The Benefits Representative should be able to work on the project full-time.

General Ledger Representative

Role	The General Ledger Representative provides subject matter expertise to the Project Team.
Responsibilities	The General Ledger Representative adds the user's perspective to the Project Team. This person is also the link between the Project Team and his or her coworkers—sharing ideas from coworkers to the Project Team and reporting the progress of the project to coworkers.
Estimated Time Commitment	The General Ledger Representative should be able to work on the project full-time.

Accounts Payable Representative

Role	The Accounts Payable Representative provides subject matter expertise to the Project Team.
Responsibilities	The Accounts Payable Representative adds the user's perspective to the Project Team. This person is also the link between the Project Team and his or her coworkers—sharing ideas from coworkers to the Project Team and reporting the progress of the project to coworkers.
Estimated Time Commitment	The Accounts Payable Representative should be able to work on the project full-time.

Budget Representative

Role	The Budget Representative provides subject matter expertise to the Project Team.
Responsibilities	The Budget Representative adds the user's perspective to the Project Team. This person is also the link between the Project Team and his or her coworkers—sharing ideas from coworkers to the Project Team and reporting the progress of the project to coworkers.
Estimated Time Commitment	The Budget Representative should be able to work on the project full-time.

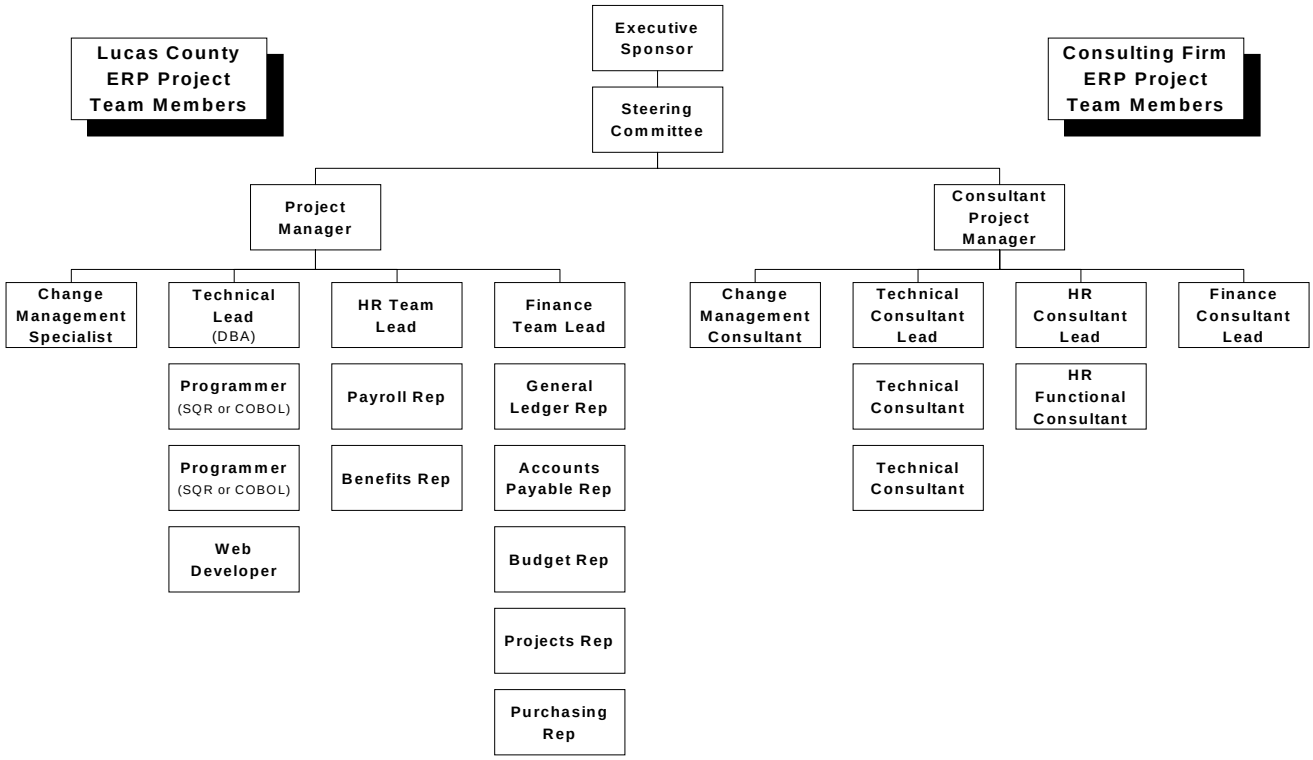
Projects Representative

Role	The Projects Representative provides subject matter expertise to the Project Team.
Responsibilities	The Projects Representative adds the user's perspective to the Project Team. This person is also the link between the Project Team and his or her coworkers—sharing ideas from coworkers to the Project Team and reporting the progress of the project to coworkers.
Estimated Time Commitment	The Projects Representative should be able to work on the project full-time.

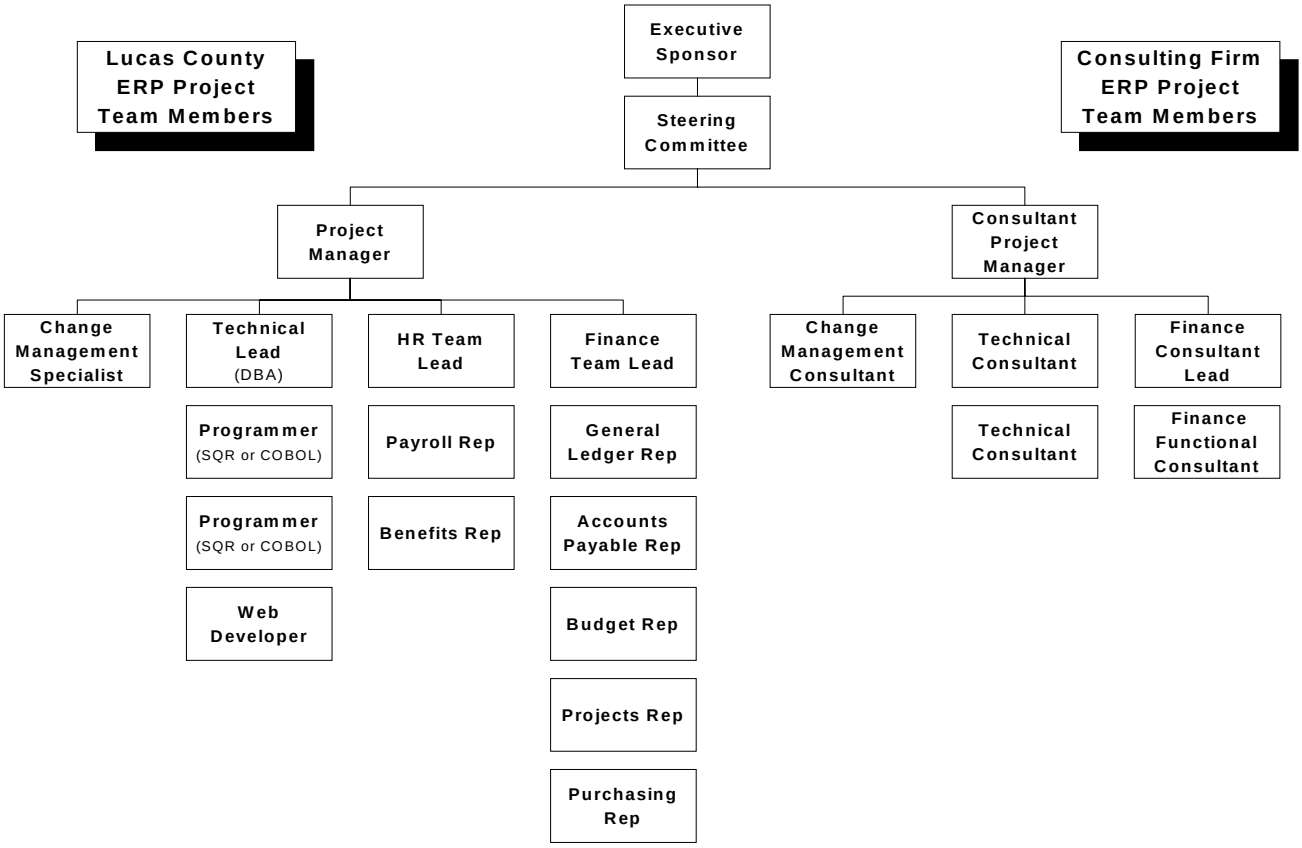
Purchasing Representative

Role	The Purchasing Representative provides subject matter expertise to the Project Team.
Responsibilities	The Purchasing Representative adds the user's perspective to the Project Team. This person is also the link between the Project Team and his or her coworkers—sharing ideas from coworkers to the Project Team and reporting the progress of the project to coworkers.
Estimated Time Commitment	The Purchasing Representative should be able to work on the project full-time.

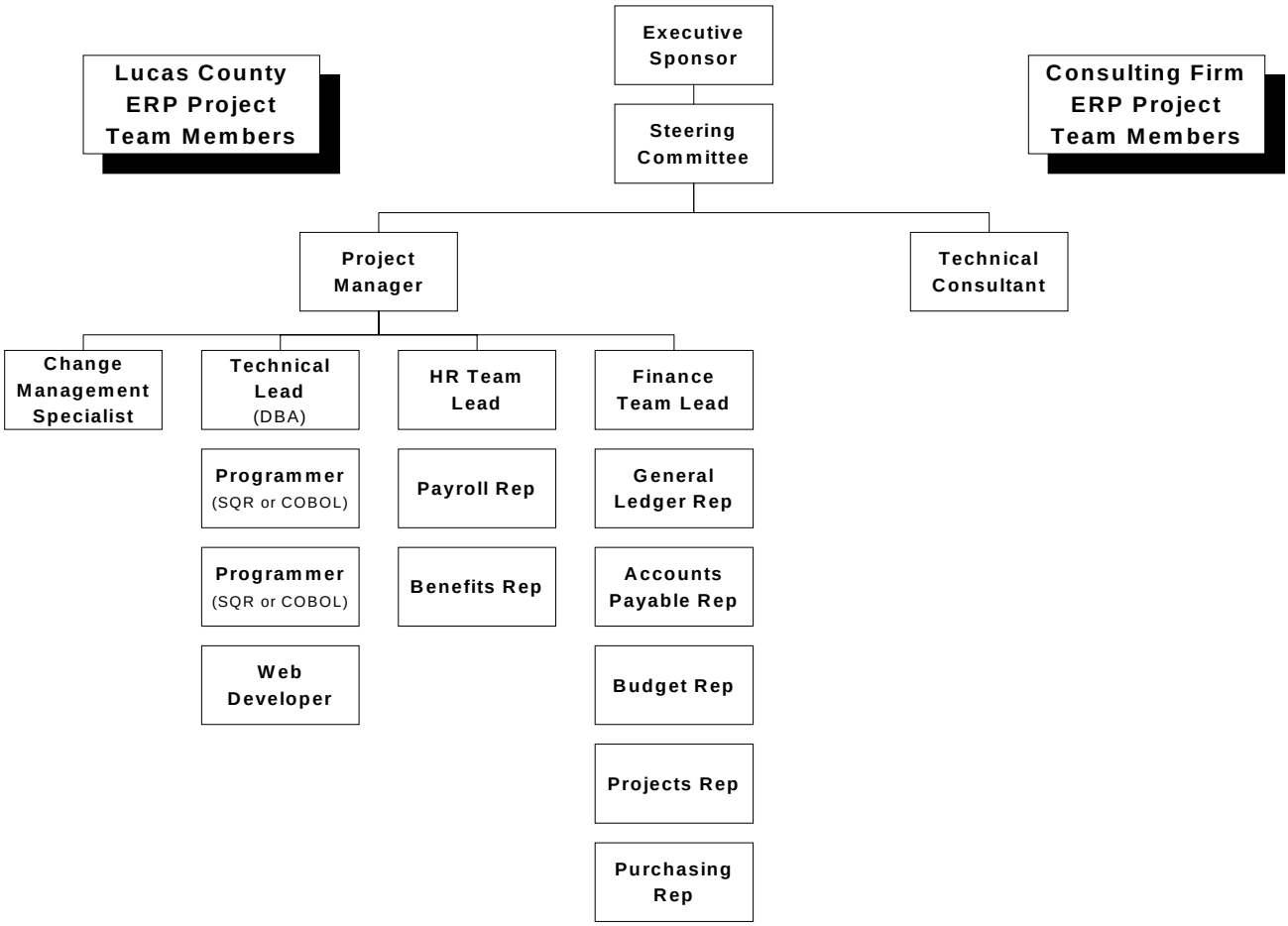
Organizational Chart—ERP Implementation Project Team (Phase I)



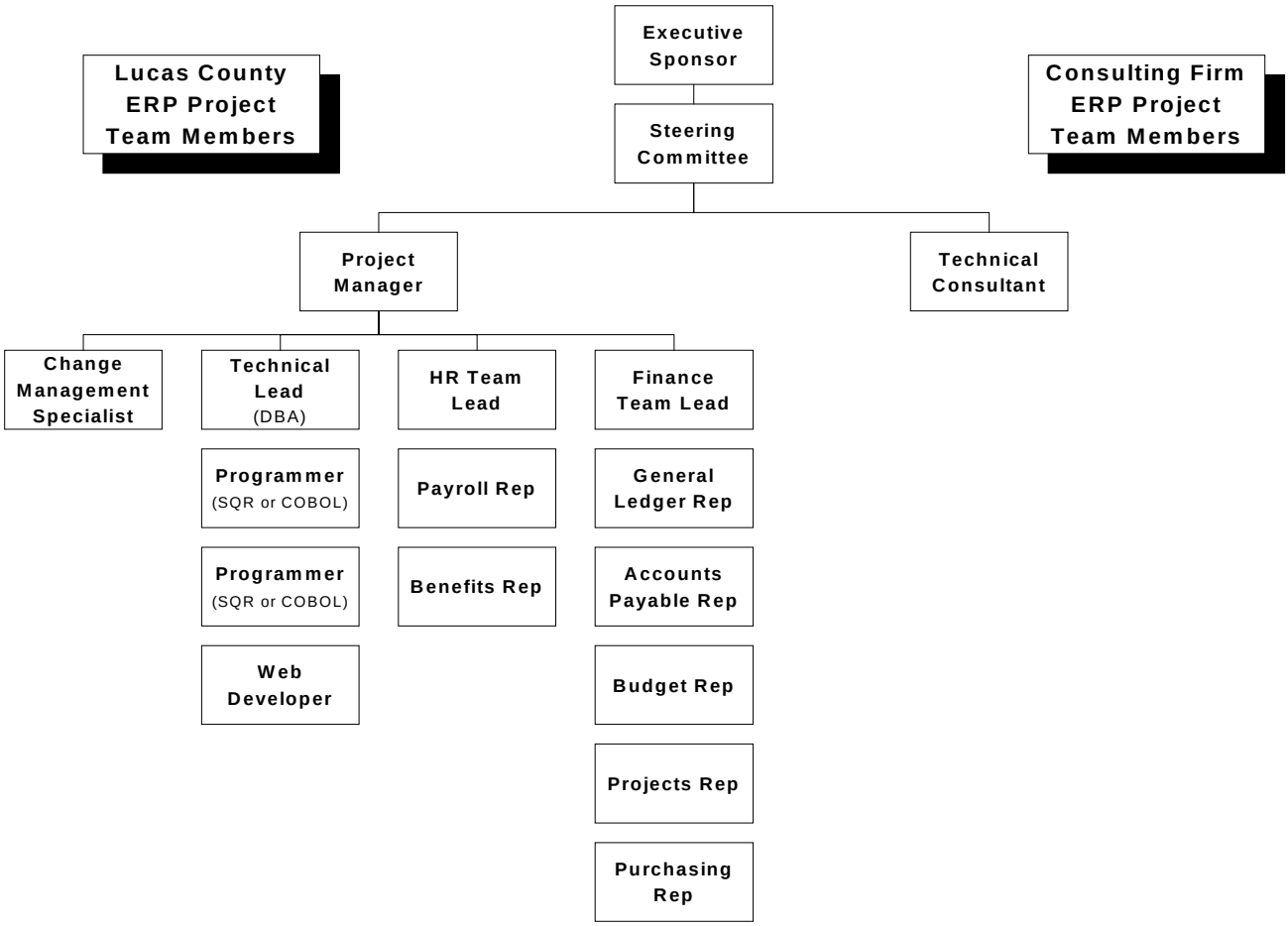
Organizational Chart—ERP Implementation Project Team (Phase II)



Organizational Chart—ERP Implementation Project Team (Phase III)



Organizational Chart—ERP Implementation Project Team (Phase IV)



Procurement Plan

Total Cost of Ownership

Overview

The Total Cost of Ownership chart on page 34 summarizes and illustrates our estimate of the total cost for Lucas County to purchase and implement an ERP system. The chart breaks down annual costs over the next four years. We intend the Total Cost of Ownership to be a budgetary planning tool for Lucas County. The figures in the chart may vary based on decisions made about the Lucas County ERP system. Lucas County leaders should use the Total Cost of Ownership to guide the financial and personnel commitments to the ERP project.

The Total Cost of Ownership estimate includes:

- Software modules
- Infrastructure (hardware, peripherals, etc.)
- Maintenance and support
- Training (for Project Team members and end users)
- Implementation consulting
- Cost of additional Lucas County staff members

To calculate the Total Cost of Ownership, we made the following assumptions:

- Lucas County would hire or contract a Project Manager, a DBA, and a Change Management Specialist.
- Salaries for new staff members would increase by 5% per year.
- The salary for the DBA may be more than indicated on the chart, depending on additional skills, knowledge, and experience.
- Lucas County would purchase and implement all of the modules of its ERP system in 2002.
- Lucas County would hire a consulting firm to collaborate with Lucas County for the ERP implementation.
- The ERP implementation consulting firm would have a strong presence the first year, then taper off its activity over the next two years.

The cost of implementation consultants includes:

- During Phase I—a full-time Project Manager and seven full-time consultants.
- During Phase II— a full-time Project Manager and five full-time consultants.
- During Phase III—one full-time consultant.
- During Phase IV—one full-time consultant (for nine months).

The costs of software modules (below) do not include discounts that the vendor might provide. Lucas County can expect to receive up to a 15% discount on the software, similar to other counties and governmental agencies. Similarly, depending on the time of year of its purchase, Lucas County can expect additional discounts to the cost of the software—vendors often discount their products at the end of the year and end of each quarter.

The Total Cost of Ownership chart does not include upgrades to the ERP system.

Note: The cost estimate is specific to an ERP implementation and does not include the cost of business process assessment, redesign, or implementation. These costs vary considerably and cannot be determined accurately until a business process assessment has been performed and the opportunities specific to Lucas County have been identified. We estimate that a business process assessment for Lucas County's Finance, HR, and Payroll areas will cost approximately $250,000.

ERP System—Total Cost of Ownership

	2002	2003	2004	2005	Total
Human Resources	$180,000				**$180,000**
Payroll	$180,000				**$180,000**
Benefits Administration	$140,000				**$140,000**
General Ledger	$85,000				**$85,000**
Accounts Payable	$60,000				**$60,000**
Accounts Receivable	$65,000				**$65,000**
Purchasing	$95,000				**$95,000**
Asset Management	$55,000				**$55,000**
Budgeting	$60,000				**$60,000**
Tax Implementation	$70,000				**$70,000**
Data Warehousing/Mining	$70,000				**$70,000**
GIS Integration	$70,000				**$70,000**
Total Software	**$1,130,000**	**$0**	**$0**	**$0**	**$1,130,000**
Hardware	$180,000				**$180,000**
Database (Oracle)	$80,000				**$80,000**
Peripherals	$2,000				**$2,000**
Installation and Ongoing Support	$9,000				**$9,000**
Total Infrastructure	**$271,000**	**$0**	**$0**	**$0**	**$271,000**
Project Team Training	$100,000	$20,000			**$120,000**
End User Training	$100,000	$40,000			**$140,000**
Implementation / Consulting	$2,800,000	$2,100,000	$350,000	$265,000	**$5,515,000**
Product Maintenance Fees (18%)	$203,400	$203,400	$203,400	$203,400	**$813,600**
Total Product Specific Costs	**$3,203,400**	**$2,363,400**	**$553,400**	**$468,400**	**$6,588,600**
DBA	$70,000	$73,000	$77,000	$80,000	**$300,000**
Project Manager	$70,000	$73,000	$77,000	$80,000	**$300,000**
Change Management Specialist	$50,000	$52,000	$55,000	$57,000	**$214,000**
Total Add'l Human Resources	**$190,000**	**$198,000**	**$209,000**	**$217,000**	**$814,000**
Total	**$4,794,400**	**$2,561,400**	**$762,400**	**$685,400**	**$8,803,600**

ERP Vendor Comparison

The following chart illustrates a comparison between five ERP vendors—J.D. Edwards, Lawson, Oracle, PeopleSoft, and SAP. The chart compares functionality, Web capability, and hardware requirements. Using this information will help Lucas County make a more informed decision when purchasing its ERP system.

ENTERPRISE RESOURCE PLANNING SOFTWARE: High End					
VENDOR	**J.D. Edwards**	**Lawson Software**	**Oracle**	**PeopleSoft**	**SAP America**
PRODUCT NAME	**OneWorld**	**Lawson Insight**	**Oracle Applications**	**PeopleSoft Financials**	**MySAP**
INTEGRATED FUNCTIONS					
Activity-based Costing	yes	yes	yes	yes	yes
Complex Allocations	yes	yes	yes	yes	yes
Credit Management	yes	yes	yes	yes	yes
Complex Consolidations / Roll-ups	yes	yes	yes	yes	yes
Debt Collection	yes	yes	yes	yes	yes
Document Management / Imaging	yes (via 3rd party)	yes (via 3rd party)	yes	yes	yes
Electronic Funds Transfer	yes	yes	yes	yes	yes
Government Commitment Accounting	yes	Planned for 2001	yes	yes	yes
Human Resources	yes	yes	yes	yes	yes
Multicurrency	yes	yes	yes (unlimited)	All ISO Standard currencies	yes
Job/Project Costing	yes	yes	yes	yes	yes
Multilingual	yes	yes (10)	yes (29)	yes (8)	Yes (37)
Non-profit Accounting	yes	yes	yes (Oracle)	yes	yes
OLAP / Data Warehouse	yes	yes (via integration with Hyperion & Microsoft SQL)	yes	yes	yes
Project Management	yes	yes (via 3rd party by industry)	yes	yes	yes
Sales Force Management	yes (via Siebel)	yes (via integration with Siebel)	yes	yes	yes
Service Management	yes	yes (via 3rd party by industry)	yes	yes	yes
Transaction Analysis Codes	yes	yes	yes	yes	yes
Travel Management	yes (via Extensity)	yes	yes	yes	yes
Treasury Management	yes	yes (via XRT/CERG)	yes	yes	yes
Workflow	yes	yes	yes	yes	yes
Discrete Manufacturing	yes	yes (via MACPRO)	yes	yes	yes
Logistics & Distribution	yes	yes	yes	yes	yes
MRP/ERP	yes	yes	yes	yes	yes
Process Manufacturing	yes	no	yes	yes	yes
Work Orders	yes	yes	yes	yes	yes
INTEGRATED INTERNET FUNCTIONS					
Business-to-Business E-commerce	yes	In future (release 4.4)	yes	yes	yes
Business-to-Consumer E-commerce	yes	In future (release 4.4)	yes	yes	yes
Employee Self-Service	yes	no	yes	yes	yes
Customer Self-Service	yes	no	yes	yes	yes
PLATFORM					
Servers	NT, Unix, AS/400, S/390, Sun	NT, Unix, AS/400, S/390	NT, Unix	NT, Unix, AS/400, S/390	NT, Unix, AS/400, S/390
Databases	SQL Server, Oracle, DB2	SQL Server, Sybase, Oracle, DB2, Informix	Oracle	SQL Server, Sybase, Oracle, DB2, Informix	SQL Server, Oracle, DB2, Informix, ODBC
Source language available	no	yes (4GL, Java, C++)	yes (Pl/sql, Oracle Developer, C)	yes (PeopleCode)	yes (ABAP)

ERP Vendor Stability Review

Overview

The purpose of this analysis is to evaluate the stability of the vendors that Lucas County is considering for its ERP implementation project. Each company was evaluated from two perspectives: 1) each vendor's financial stability and 2) each vendor's commitment to continue to develop, enhance, and support its software package.

Approach

Three categories were reviewed for each vendor on a scale of 1 (lowest) to 5 (highest). These categories were:

Vendor History and Financial Stability—A review of each company's profile and financial stability to determine if Lucas County would be assuming risk by entering into a long-term relationship with the vendor. Areas reviewed included financial measurements, market capitalization, and number of employees and customers. Tools used in this analysis include reports from Dun & Bradstreet, each vendor's reported financial statements, and interviews with industry experts.

Product Investment—An evaluation of each company's track record for improving the modules being evaluated and their stated intent to continue to invest in the products.

Product Support—An evaluation of each company's product support services available and their reputation of adequately providing these services.

Vendor Ratings

	Lawson	Oracle	PeopleSoft
Vendor History and Financial Stability	4.0	5.0	4.5
Product Investment	3.5	4.5	4.5
Product Support	3.5	4.0	4.0
Average Score	**3.7**	**4.5**	**4.3**

Summary

All three of the companies analyzed represent large, established software companies. Their financial profiles are strong and do not present any significant risks in entering a long-term relationship. All companies have stated a financial commitment to continue to build the functionality of their products and stay current with technological developments. The support services offered from all three vendors are comprehensive, although the vendor's reputations vary in this area. Based on the ratings summary above, any of the three vendors chosen poses minimal risk to Lucas County and is well equipped to support their software well into the future.

Lawson

Product: **Financials, Human Resources/Payroll, various other modules**

1. **Vendor History and Financial Stability** (Category Rating = **4.0**)
   Lawson Software was founded in 1975 and remains privately held. The company employs over 1,100 employees worldwide and serves over 2,500 customers including the first customer to purchase Lawson software over 25 years ago. Lawson was named by Red Herring Magazine as the strongest privately held ERP Software Company.

Financial Profile (as of 12/31/00 unless otherwise indicated)

Revenue	$313 million
Net Income	Not Available
Market Capitalization	Not Available
Earnings per share	Not Available
Employees	1,100
Dun & Bradstreet rating	1R4—Limited report, slow in paying trade obligations
Payment history	Clear
Number of Customers	2,500 (over 100 public sector organizations)

Financial Strength

Cash	Not Available
Debt to Equity	Not Available
Current Assets	Not Available

2. **Product Investment** (Category Rating = **3.5**)
   Lawson has spent between 14% and 15% of revenue on research and development for each of the last 5 fiscal years. Lawson has continually recognized and anticipated significant new computing trends, adding AS/400 in 1988, UNIX in 1990, and MS Windows NT in 1998. IDC identified Lawson as the first vendor to deliver Web deployable business applications.

3. **Product Support** (Category Rating = **3.5**)
   Lawson's Center of Excellence offers telephone support from 7:00 am to 7:00 pm CST. On-site support and 24-hour telephone support are available for an additional fee. Turnaround times for help line calls are 74% in 30 minutes, 86% in 2 hours and 98% within 4 hours. There is access to a support Web site.

Overall Lawson Ranking: 3.7

Oracle

Product: **Financials, Human Resources/Payroll, various other modules**

1. **Vendor History and Financial Stability** (Category Rating = **5.0**)
   Oracle was founded in 1977. Oracle's financial profile reflects a very large, stable company with many positive characteristics. The company employs over 41,000 people and serves a large number of customers in a broad cross section of industries. Oracle carries minimal debt and has a significant amount of cash. The company's revenue has grown significantly over the past few years. While revenues grew in 2000, expenses were drastically reduced using their own e-business suite.

Financial Profile (as of 11/30/00)

Revenue	$10.1 billion
Net Income	$2.6 billion
Market Capitalization	$106.4 billion
Earnings per share	$0.44
Employees	41,290
Dun & Bradstreet rating	5A2—Good
Payment history	Clear
Number of Customers	>8,000 (500 Service Industry customers)

Financial Strength

Cash	$4.16 billion
Debt to Equity	0.06
Current Assets	$7.11 billion

The source of the financial information is the company press release, SEC financial filings, and Dun & Bradstreet.

2. **Product Investment** (Category Rating = **4.5**)
   These modules represent the most recent versions of core financial applications that have been released under version 11i. Oracle continues to strategically invest in these modules. Oracle's challenge is to successfully be everything to everyone—they prefer to build every module in-house.

3. **Product Support** (Category Rating = **4.0**)
   Customer support is available 24x365 with proactive prevention programs offered, some of these services are offsite. Rating is based on size, availability of support staff and client references of actual support received.

Overall Oracle Ranking: 4.5

PeopleSoft

Product: **Financials, Human Resources/Payroll, various other modules**

1. **Vendor History and Financial Stability** (Category Rating = **4.5**)
   PeopleSoft was started in 1987. PeopleSoft's financial profile reflects a large, stable company with many positive characteristics. The company employs almost 7,000 people and serves a large number of customers in a broad cross section of industries. PeopleSoft carries a significant amount of cash on its balance sheet. The company's revenue had grown significantly over the past few years, but was relatively flat in 1999 and 2000. This downturn was a trend for many companies in the ERP industry, and was not associated with an event specific to PeopleSoft.

Financial Profile (as of 3/31/01)

Revenue	$1.43 billion
Net Income	$165 million
Market Capitalization	$10.2 billion
Earnings per share	$0.53
Employees	6,900
Dun & Bradstreet rating	5A2—Good
Payment history	Clear
Number of Customers	3,000

Financial Strength

Cash	$337 million
Debt to Equity	0.05
Current Assets	$1.65 billion

The source of the financial information is the company press release, SEC financial filings, and Dun & Bradstreet.

2. **Product Investment** (Category Rating = **4.5**)
   These modules represent the most recent versions of core financial and Human Resources applications that have been in release for a number of years. PeopleSoft continues to strategically invest in these modules, with an estimated 19% of revenue devoted to research and development in 2000. Without the investment in these products, PeopleSoft would have difficulty remaining competitive in the ERP market.

3. **Product Support** (Category Rating = **4.0**)
   Customer support is available 7x24, some offsite offsite. Rating is based on size, availability of support staff, and client references of actual support received.

Overall PeopleSoft Ranking: 4.3

Supplemental Information

For more detailed financial information about Lawson, Oracle, and PeopleSoft, we have provided their Dun and Bradstreet reports in the Appendix of this document.

For information on Lawson, see page 211.

For information on Oracle, see page 223.

For information on PeopleSoft, see page 239.

Software Evaluation

This section presents our review and summary of Lucas County's requirements for its ERP software. We completed the review and summary by interviewing experts from Lucas County's functional areas. Among the interview subjects were Dan Bridge, Sandy Castellese, Diane Ducey, Lynn DiPierro, Jan Jump, Bridgette Kabat, Gwen Moore, Tom Nichter, and Scott Smith. Based on the interviews, we determined if each functionality currently exists in Lucas County, if a customization exists (or is needed) in the current system, or if the functionality does not exist but is desired in the new ERP system.

Our software evaluations, beginning on the next page, rate each item with a "Y," "N," or "C." A "Y" means that the functionality exists and will be needed in the new ERP system. An "N" means that the functionality does not exist or is not needed. A "C" means that the functionality is needed and that some customization will have to occur in the new ERP system.

General Functionality—beginning on page 43
Human Resources / Payroll / Benefits—beginning on page 45
Purchasing—beginning on page 55
General Ledger—beginning on page 57
Accounts Payable—beginning on page 59
Fixed Assets—page 61
Accounts Receivable—page 62
Billing—page 63
Publications—page 64
Project Costing—beginning on page 65
Inventory—page 67
Grants—page 68

LUCAS COUNTY			
FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.0	**Workflow Processing:**		
1.1	Screens can be linked together to facilitate processes.	Y	
1.2	Routing or distribution lists may be defined for turnaround documents/forms.	Y	
1.3	Documents can be sent electronically based on defined routing lists.	Y	
1.4	Electronic forms can have 'approved' fields within the document.	Y	
1.5	PIN control over authorizations.	Y	
2.0	**Organizational Classifications:**		
2.1	Classification by company, department.	Y	
2.2	Hierarchies used to control security access.	Y	
2.3	Hierarchies used to support merit pooling.		
3.0	**Query/Reporting:**		
3.1	Query capability can be used with on-screen searching.	Y	
3.2	Query capability can be used with reports, spreadsheet.	Y	
3.3	Ability to add, rename and/or delete fields or change field lengths.	Y	
3.4	Printer control: # copies, priority, start-time, run on client vs. server.	Y	
3.5	User can define formulae in reports.	Y	
3.6	When running historical reports, table entries active at that point in time are used.	Y	
3.7	Reports can be scheduled to run at any specified time.	Y	
4.0	**Application Security:**		
4.1	Available operator identifiers: Operator ID, password, PIN	Y	
4.2	PIN is encrypted.	Y	
4.3	Security profiles can restrict or allow access to screen, transaction, field, standard/ad hoc report.	Y	
4.4	Password changes can be enforced	Y	
4.5	Security violations audit trail.	Y	
4.6	Copy security access from one user to another or establish a user title and assign users to a title.	Y	
4.7	Ease in adding a company to multiple users.	Y	
4.8	Data files are encrypted.	N	

LUCAS COUNTY			
FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
5.0	**Audit Trail:**		
5.1	Record of fields affected	Y	
5.2	Record of transaction date/time	Y	
5.3	Before and After values	Y	
5.4	Operator ID, name	Y	
5.5	Fields recorded in audit trail are user-defined	Y	
6.0	**Technical Information:**		
6.1	Demo Version Available	Y	
6.2	Development Language	Y	
6.3	Source Code Provided	N/A	
6.4	Relational Database	N/A	
6.5	Supports SQL	N/A	
6.6	Client/Server Architecture	N/A	
6.7	Graphical User Interface - Windows Standards Compliant	N/A	
6.8	Support for multiple input devices: telephone, touch screen, voice, pen, fax.	N/A	
6.9	On-line data transfer links supported: DDE, OLE, EDI.	N/A	
7.0	**Global Functionality**		
7.1	Interrelated functionally across all systems	Y	
7.2	Eliminate duplicate data across systems	Y	

LUCAS COUNTY			
HR / BENEFITS / PAYROLL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.0	**General Personnel-Biographic Information:**		
1.1	Support for multiple addresses: Home, Mailing, etc.	Y	
1.2	Emergency Contact Information	Y	
1.3	Driver's License: type, number, restrictions	Y	
1.4	Marital Status, # Dependents	Y	
1.5	Support for multiple telephone numbers: Home, Cellular, etc.	Y	
1.6	Employee Asset Control	Y	Company Property
1.7	I-9 Tracking	Y	
1.8	Ability to track multiple employee types (temporary, project, supplemental, regular, etc.)	Y	
1.9	Ability to track employee's visa start and end date	Y	
1.10	Ability to enter employee's country of origin	Y	
1.11	Ability to track degree or certification received	Y	Training Program for Bargaining Unit employees
1.12	Ability to track graduate students with the certification programs and the school and/or department they are coming from	Y	
1.13	Ability to track faculty appointments	Y	
1.14	Ability to develop a training schedule and automatically register employees for available training	Y	
1.15	Calculate an adjusted re-hire date	Y	Pro-rate Date - vacation is based on this
1.16	Applicant tracking system	Y	
1.17	Scan employee pictures into the system	Y	
1.18	Ability to tie a grant number to each job requisition	Y	Prosecutor's office funds jobs by grants
1.19	Allow employees to update personal information and notify HR of a qualifying event through the intranet or over the Web	Y	
1.20	Generate accurate departmental listings of employee's name, address, phone number, and emergency contact for supervisors	Y	
2.0	**Salary Administration**	Y	
2.1	Compensation Planning	Y	
2.2	Rounding Capabilities	Y	Rounded up
2.3	Salaries added/updated in batch mode	Y	
2.4	Salary changes may be future-dated	Y	Want this
2.5	Authorization mechanism for rate changes	Y	Multiple Process

LUCAS COUNTY			
HR / BENEFITS / PAYROLL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
2.6	Reason for rate change recorded	Y	Certified to the Auditor on a separate form
2.7	Records multiple pay rates: Annual, Biweekly ,etc.	Y	
2.8	Multiple Salary Programs Supported	Y	Want this
2.9	Support for salary scales: minimum, general pay levels	Y	
2.10	Salary tables linked to job/category	Y	Job -> Classification -> Salary
2.11	Support for salary banding (job point factor determines salary grade/level)	N	Possible in other HR departments
2.12	On-line view of employee's TOTAL compensation package	Y	
2.13	Pay status recorded; full/part time, fee-based, other.	Y	
2.14	Variable pay plans supported: multiple bonus plans, pay for performance, sales incentives, etc.	Y	
2.15	Salary History maintained: rate(s), from/to effective dates, amount/percent change, change reason - unlimited.	Y	
2.16	Tracks performance reviews due.	Y	
2.17	Tracks salary reviews due	Y	
2.18	Tracks vacation days: available, taken, and carried over	Y	
2.19	Ability to track salaries for scientific staff, post doc's, and graduate students and generate formulas used for housing supplement calculation	N	Not any housing supplements in the county
2.20	Ability to maintain a very dynamic Salary Projection System that monitors/updates GL and sub-ledger activity on a continuous basis	Y	
3.0	**Other Compensation:**		
3.1	System records Savings and Loans	N	Deferred Comp only
3.2	Bonus/Incentive Plan administration	Y	
3.3	Stock Plan: records vesting/re-entry period, stocks purchased, share ownership changes, withdrawals, contribution changes.	N	
3.4	Stock Option Plan: records current, proposed grants, grant dates.	N	
3.5	Compensation data recorded historically	Y	
3.6	Track all hours worked to determine eligibility for benefits	Y	Must work average of 20 hours/week
4.0	**Team Compensation:**		Don't have teams now, but would like this functionality for the future

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HR / BENEFITS / PAYROLL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
4.1	Employees can be assigned to team(s).	N	
4.2	Team objectives can be defined	N	
4.3	Team performance can be defined/measured	N	
4.4	Team compensation can be linked to business objectives	N	
4.5	Team compensation can be linked to team performance.	N	
4.6	Team compensation can be linked to variable pay system.	N	
4.7	Formula can be defined to determine team/individual gainshare	N	
5.0	**Budgeting/Modeling:**		
5.1	Supports calculations for Full-time Equivalency	Y	
5.2	Next year's budget for position recorded.	Y	Jobs only - they do not have positions
5.3	Ability to assign budgeted/merit pool to business units/departments.	Y	
5.4	Budget variance reports are created	Y	
5.5	Headcount history is recorded	Y	
6.0	**Benefits Administration**		
6.1	Plan participation record	Y	
6.2	Benefit Options linked to business/job/employee group	Y	
6.3	Default benefits for new hires	Y	There is a default - it's no benefits if the employee does not turn in paperwork
6.4	Each plan can have unique eligibility/enrollment rates	Y	
6.5	User notified when eligibility date is reached	Y	
6.6	Employees can be automatically enrolled when defined enrollment date is reached	N	Currently all benefits need a form for participation. If there is no form, they get no benefits
6.7	Coverage dates for employees are recorded	Y	
6.8	Coverage dates for Dependents are recorded	Y	
6.9	Benefit changes/transactions may be future dates	Y	
6.10	Supports multiple plan types; basic, core, flex, cafeteria	Y	
6.11	Stores benefit provider information	Y	
6.12	Benefit coverage's are formula driven	Y	

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APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
6.13	Calculates and tracks imputed income for life insurance	N	Maybe in the future - currently there is no GTL
6.14	Supports Smoker/Non-smoker rates	Y	
6.15	Benefit maximums (415 limits) can be defined across plans	Y	
6.16	Benefit frequencies can be defined	Y	
6.17	Benefit tables can be effective dated; supports future dated transactions	Y	
6.18	Benefit Statements are provided	Y	Would want to do this
6.19	Premium Statements are provided	N	Possible in the future
6.20	Benefit Change Confirmation Statements are provided	Y	Would be nice in the future
6.21	Dependent's demographic information is stored; Name, DOB, gender, age, etc.	Y	
6.22	Beneficiary information is stored	Y	Currently stored on paper
6.23	Benefits can be added/updated in batch mode	Y	
6.24	Benefits history is maintained - unlimited	Y	
6.25	COBRA administration	Y	
6.26	FMLA, LTD, STD, COBRA tracking	Y	
6.27	Automatic generation of formulas used in the calculation process of all benefits	Y	
6.28	Ability to set flags within the system to automatically generate letters and billing statements pertaining to all aspects of benefit administration	Y	Especially COBRA
6.29	Ability to perform all year end calculations automatically within the system.	Y	
6.30	Maintain FSA accounts for childcare/medical	Y	
7.0	**Pension Administration:**		
7.1	System provides facilities to record pension plan participation.	Y	They take the deduction for PERS - different rules by position/division - all ees are req'd to participate
7.2	Employees can participate in multiple plans.	Y	
7.3	Valuations can be tracked for Normal, Early, Late retirement. Earnings history tracked to determine highest 60 consecutive months for pension calculation.	N	
7.4	Ability to perform all year end calculations automatically within the system.	N	
8.0	**Benefits Claims Administration**		Possible in the future
8.1	Validation of benefit claim by benefit eligibility, coverage limits, deductible specifications.	N	Currently the Insurance Co does this

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APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
8.2	Claim status recorded: open, paid, etc.	N	
8.3	Claim entry & payment dates recorded	N	
8.4	System can process FSA payment by check, direct deposit, payment direct to provider.	Y	
9.0	**Training & Development:**		Newly Developed
9.1	Course type: Managerial, Functional, Skill, Personal Development.	Y	
9.2	On-line summary view of training	Y	
9.3	Training dates, locations	Y	
9.4	Internal course scheduling/registration.	Y	
9.5	Course descriptions, prerequisites.	Y	
9.6	Tuition reimbursement details	Y	
9.7	Tracks accounting/budgeting information.	Y	
9.8	Total marketing of training	Y	
9.10	Run ad Hoc reports	Y	
9.11	Integration with employee records	Y	
9.12	Integration with job posting	Y	
9.13	Course confirmation letter	Y	
10.0	**Applicant Tracking:**		
10.1	Applicant demographics recorded	Y	
10.2	Previous employment history.	Y	
10.3	Facility to compare employees'/applicants' qualifications.	Y	
10.4	System records availability, willingness to travel/relocate, desired position.	Y	
10.5	Qualifications: Education, Skills, Training, Experience	Y	
10.6	Recruitment sources & costs can be tracked, analyzed.	Y	
10.7	Recruitment diary is maintained, record of correspondence maintained.	Y	
10.8	Interview scheduling provided.	Y	
10.9	Interviewer comments, results recorded.	Y	
10.10	Track referral source	Y	
10.11	Send resume acknowledgment	Y	
10.12	Electronic forward resume	Y	
10.13	Electronic job requisitions	Y	
10.14	Automatic transfer to hire status	Y	
10.15	Ability to enter an employees country of origin and visa information	Y	
11.0	**Labor Relations:**		

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APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
11.1	Negotiation support: "what-if" analysis of job groups.	Y	
11.2	Union rosters and history.	Y	
11.3	Can record varied service/entry dates.	Y	
11.4	Automatic labor allocation to multiple responsibility centers (cost centers)	Y	
11.5	Cost allocation by job function	Y	
11.6	Inter-organizational allocations to GL	Y	
11.7	Grievance/Resolution can be tracked.	Y	
12.0	**Health and Safety**		
12.1	Personal Medical Information	Y	
12.2	Personal Doctor Information	Y	
12.3	Modified Work Restrictions	Y	
12.4	OSHA 200 Report Support	Y	
12.5	NYS tracking & reporting requirements.	N	
12.6	Ability to record notes	Y	
12.7	Wellness education information and registration.	Y	
12.8	Clinic traffic tracking	Y	
13.0	**Disability Absence Administration:**		
13.1	On-line recording of disability policies, rules and calculations.	Y	
13.2	System records reason for disability	Y	
13.3	Workers Compensation claim details.	Y	
13.4	System records start/projected return dates.	Y	
13.5	System advises Medical staff, Line Manager when employees progress from STD to LTD.	Y	
13.6	System advises Manager and Human Resources when employees are due to return.	Y	
13.7	System advises Payroll when pay status changes.	Y	
13.8	Leave history is maintained.	Y	
14.0	**Termination/Severance Administration:**		
14.1	Records reason, dates, rehire information.	Y	
14.2	Records initiating, approving manager information	Y	
14.3	System advises managers of appropriate termination process.	Y	
14.4	Calculates notice and severance based on projected/actual dates & policy rules.	Y	
14.5	Employee termination agreement	Y	
14.6	Outplacement services (agency and code)	N	Currently they don't do this
14.7	Eligibility for sabbatical	N	Currently they don't do this
14.8	Retraining allowance	N	Unsure if in other departments

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APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
14.9	System advises all departments with need to know of termination	Y	
14.10	Ad hoc reports	Y	
15.0	**Regulatory Compliance:**		
15.1	System prepares EEO-1	Y	
15.2	Vets-100	Y	
15.3	Affirmative Action Job Group Analysis	Y	
15.4	Affirmative Action Work Force Analysis	Y	
15.5	Applicant Adverse Impact Analysis	Y	
16.0	**Payroll Administration:**		No interface to 3rd party
16.1	Payroll Interface facility is provided	N	
16.2	Interface processing captures 'changed only' employee maintenance transactions.	N	
16.3	Tracks record of interface transactions.	N	
16.4	Interface processing passes permanent & one-time deduction changes.	N	
16.5	Interface processing includes earnings, pay transactions (i.e. Auto Allowances, Special Fees, Bonuses).	N	
16.6	Facility to store pay history is provided.	Y	
16.7	Pension population auto pay only	N	
16.8	Pay by exception, 100%	Y	
16.9	Time kept 1/4 hour basis	Y	Multiple time periods - some at 1/10 hour
16.10	Pay based on multiple rates, need ability to override	Y	
16.11	Ability to base pay on hours per project, per location	Y	
16.12	Ability to override hourly rate per project at time entry	Y	
16.13	Ability to maintain multiple pay groups	Y	
16.14	Ability to maintain multiple earnings types	Y	
16.15	Ability to maintain multiple deduction types	Y	
16.16	Types of tax preferential items such as; pre-tax and post-tax benefit deductions, pre-tax and post-tax additional earnings, 401k, moving expenses, automobile expenses, imputed group term life, other fringe benefits.	Y	
16.17	Ability to assign acting supervisor pay	Y	
16.18	OT, earnings based on average hours worked, per 8 hour day	Y	
16.19	Automatic earnings calculations - retro	Y	
16.20	Automatic calculations of retroactive deductions	Y	
16.21	Allow one-time deduction and earnings overrides	Y	

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APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
16.22	Pay for accrued vacation/advanced vacation pay	Y	
16.23	Use sliding scale for pay	Y	
16.24	Special bonus processing	Y	
16.25	Pension pay processing	N	
16.26	Commission tracking and processing	N	
16.27	Ability to incorporate non-taxable pay into net (i.e., expenses)	Y	
16.28	Require an avenue to identify the Gross Pay from an entered Net amount (i.e., each individual will receive a $100 bonus after taxes, therefore, PMC requires an avenue to calculate the gross bonus amount in order to receive the necessary resulting net)	Y	
16.29	Pay docking/tracking hours without pay	Y	
16.30	Must have the ability to perform multi-state taxing	N	Only Ohio
16.31	Inclusion of vacation, sick and any floating holiday or personal day balances on the pay check	Y	
16.32	Ability to perform Check Reconciliation	Y	
16.33	Need the ability to maintain special earnings accumulators (RET, 401K, etc.)	Y	
16.34	Need to Calculate Imputed Income	Y	
16.35	Ability to maintain Pension Plans (Retirement Plans) and to do Projections on an Ad Hoc basis	N	
16.36	Ability to allow individuals to select Direct Deposit (to multiple accounts)	Y	
16.37	US Savings Bond Processing	Y	
16.38	Ability to maintain severance pay plans	Y	
16.39	Allow salary continuation plan, includes automatic earnings adjustments	Y	
16.40	The ability to handle the payout for accumulated sick at Retirement/Separation	Y	
16.41	Ease in customization of the pay check and advice format	Y	
16.42	Ease in handling garnishment processes, includes issuance of garnishment check generation	Y	
16.43	Ability to handle miscellaneous incentive and award programs (i.e., individuals who bring business, get a bonus)	Y	
16.44	Bonus plan tracking	Y	
16.45	Multiple salary structure accommodations	Y	
16.46	Automatic deduction arrearage tracking	Y	
16.47	Automatic retroactive pay calculation	Y	

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APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
16.48	Ability to track employee exemptions	Y	
16.49	Ability to access all employee history for grant processing	Y	
16.50	Ability to track changes made to direct deposits	Y	
16.51	Automatic download of non-exempt hours directly into ADP system	N	No interface to 3rd party
16.52	Ability to sort checks by building worked in	Y	Sorting done by various methods
16.53	Ability to calculate imputed income for labs that are owned by the organization and an employee	N	
16.54	Integrated human resource and payroll system to remove the need for written notification of benefit changes	Y	
16.55	Ability to pre-pay vacation	N	Vacation does not go into negative balance
16.56	Interface between payroll and grants to monitor grant distribution changes/allocations	Y	
16.57	Ability to access extensive grant information, including start and end dates, review dates, and renew dates	Y	
16.58	Ability to notify a PI when the grant has ended	Y	
16.59	Maintain flags in the system to notify payroll when re-budgeting has occurred	Y	
16.60	Location within the system to store all supporting grant documentation to meet federal government requirements	Y	
16.61	Ability to encumber labor costs	Y	
16.62	Ability to encumber payroll on a pay period basis	Y	
16.63	Ability to review select salary history	Y	
17.0	**Miscellaneous:**		
17.1	Ability to note Executive contracts and office of record.	Y	
17.2	User friendly	Y	
18.0	**Application Customization/Development Tools:**		
18.1	Data conversion tools and utilities are provided.	Y	Want to manually key in employees
18.2	Integrated development tool(s) support panel, menu, field, record modification/additions.	Y	
18.3	Ability to control which fields are required (must enter).	Y	
18.4	Ability to control which fields are historical in nature.	Y	
18.5	Ability to modify/define field edits/defaults	Y	

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APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
18.6	Summary screens or views can be created.	Y	
18.7	Global mass-update facility provided.	Y	
18.8	Application provides mass update undo function.	Y	
18.9	Provides file import/export facilities.	Y	
18.10	Import/Export record layout and common file structure is provided to facilitate interfaces.	Y	
18.11	On-line system, screen, field level help	Y	
18.12	Help can be edited. (Initial field help provided by vendor)	Y	
19.0	**Time and Attendance**		
19.1	Supervisors ability to see detailed clock in and out punches for all employees in their department	Y	
19.2	Ability to edit employees' records	Y	
19.3	Ability to print out a summary of employees hours worked for the pay period so that the employee can sign off on the record prior to processing	Y	
19.4	Track vacation available and taken	Y	
19.5	Financial view of hours worked, vacation taken, and disability tracking to determine remaining budget dollars	Y	

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FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.0	**Purchasing**		
1.1	Ability for the requisition to create the commitment	Y	
1.2	Ability to query encumbrances on a daily basis	Y	
1.2	Ability to match multiple receivers to one PO and invoice.	Y	low priority
1.3	Ability to receive additional items for a closed purchase order.	N	
1.4	Allow for rule variations regarding the need to automatically issue change orders.	Y	
1.5	Definability of contract/PO approval, hold, enter, update and closing responsibilities by user.	Y	
1.6	Ease vendor search look-up with vendor grouping, vendor prefixes and user tailored shortnames.	Y	
1.7	Ability to charge multiple cost centers on an individual line item.	Y	
1.8	Provide customized feature to have one keystroke ability to receive total purchase order.	Y	
1.9	Have flexible reporting and inquiry.	Y	
1.10	Have information such as FOB, ship to and comments that needs to be retyped frequently available in tables.	Y	
1.11	Have the ability to add/change vendor information on-line for immediate processing.	Y	Flag item(s) under a certain dollar amounts that will directly be processed by AP, by passing PO.
1.12	Have user comment fields throughout the screens.	Y	
1.13	Implement flexible variance matching rules that satisfy business needs.	Y	
1.14	Permit users to print PO's on an as needed basis.	Y	
1.15	Provide for extended description fields on purchasing documents.	Y	
1.16	Provide full audit trail capabilities.	Y	
1.17	Share all applicable tables with Accounts Payable such as vendor master files, payment terms, and taxes.	Y	
1.18	Use automatic matching of invoices to PO's / receivers for payment processing in Purchasing and/or Accounts Payable.	Y	
1.19	Used EDI (electronic data interchange), fax or email to expedite RFQ's and PO's.	Y	
1.20	Ability to integrate with other applications.	Y	
1.21	Ability to query part numbers and/or product history	Y	Began using NIGP codes for items, 4/2001

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FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.22	Interface available for outside database (Access)	Y	
1.23	Ability to handle fractionated items	Y	
1.24	Ability to both manually assign purchase order numbers and automatically assign them	Y	Would only need auto assign
1.25	Ability to produce backorder reports	N/A	Maintains no inventory
1.26	Ability to produce a receipt history report	Y	
1.27	Ability to produce a receipt/invoice variance report	Y	
1.28	Ability to setup Contracts	Y	
1.29	Ability to setup Approval process flow	Y	
1.30	Ability to setup Approval dollar amount tolerances	Y	

LUCAS COUNTY			
FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.0	**General Ledger**		
1.1	Provide ability to set up accounting distributions online, real-time and specify active and inactive dates for their use.	Y	
1.2	Provide transaction description fields for all posted transactions.	Y	
1.3	Provide fields for account balance and budget amounts within same accounting distribution.	Y	
1.4	Ability to delete, online accounts set up in error with zero activity.	Y	
1.5	Ability to use wild cards in performing queries.	Y	
1.6	Display all accounts and balances of a center on one scrollable screen.	Y	
1.7	The chart of accounts report should be accessible online.	Y	
1.8	Provide ability to create maintenance and financial reports using all available data in whatever combination desired.	Y	
1.9	It should be possible to write reports that combine accounting data with data from databases outside of the accounting system.	Y	
1.10	Provide ability to write reports online.	Y	
1.11	System maintenance reports should be updated every time that the system updates and should be viewable online.	Y	
1.12	Provide ability to view financial reports, online.	Y	
1.13	It should be possible to generate journal entries directly from data that is created in the system.	Y	
1.14	Provide ability to enter all documents online.	Y	
1.15	Ability to enter reversing journal entries.	Y	Would like auto reversal of accruals
1.16	Allow for automatic posting of standard and recurring type entries.	Y	
1.17	Electronic access to historical data, with at least 2 years of posted detail transaction data.	Y	
1.18	Ability to correct error batches from interfaces online.	Y	
1.19	Ability to provide a 13th month	Y	
1.20	Provide ability for the fixed asset system to bridge journal entries directly to GL.	Y	
1.21	Ability to enter and store statistical data.	N	
1.22	Ability to make audit entries to a closed year	Y	
1.23	Ability to allocate and post financial allocations.	Y	

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FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.24	Ability to run reports based on an effective date	Y	
1.25	Ability to journalize transfer of dollar between grants	Y	
1.26	Ability to close out the P&L to several different funds	N	
1.27	Ability for description lines to print out on reports	Y	
1.28	Ability to create Budget scenarios	Y	
1.29	Ability to generate budget vs. actual variances	Y	
1.30	Ease of access to update budget ledger when changes occur in Actuals ledger	Y	
1.31	Ability to generate financial trends from past history and to create future projections.	Y	

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FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.0	**Voucher Entry / Voucher Processing**		
1.1	Accelerate data entry speed with templates, SpeedCharts, SpeedTypes and quick entry screen features.	Y	
1.2	Allow for electronic batch voucher entry.	Y	
1.3	Allow for entering vouchers in groups or individually.	Y	
1.4	Allow for multiple invoice applications against a single PO.	Y	
1.5	Ability to change a distribution line on an invoice after it has been posted	Y	
1.6	Ability to set up vendors with multiple sites.	Y	Need ability to handle multiple vendor address locations.
1.7	Have the ability to add/change vendor information on-line for immediate processing.	Y	
1.8	Have the availability to set up sales/use tax codes and tax authorities.	N/A	
1.9	Have the option to automatically number vouchers and vendors.	Y	
1.10	Have the option to automatically prorate discounts, sales/use tax and freight	Y	
1.11	Provide validation of GL account numbers and Grant numbers upon voucher entry.	Y	
1.12	Provide the ability to track inactive vendors.	Y	
1.13	Ability to flag tax exempt purchases and report on them.	N/A	
1.14	Ability to track duplicate invoice numbers for a particular vendor	Y	
2.0	**Payment Processing**		
2.1	Allow for positive payment flag reporting of checks issued to the bank.	N/A	
2.2	Ease of use to void checks.	Y	
2.3	Ability to handle advance payments	N/A	
2.4	Have the ability to easily change disbursement bank accounts.	Y	
2.5	Have the ability to reprint checks in case of a printer jam or check stock runs out.	Y	
2.6	Make automated recurring payments for items such as leases and rent.	N/A	
2.7	Make payments via EFT, wire or check.	Y	
2.8	Ability to establish prepaid accounts	N/A	
2.9	Provide for flexible check printing formats.	Y	

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APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
2.10	Use preprinted or system printed check numbers.	Y	
2.11	Use trial check registers before actual payment creation.	Y	
3.0	**Other**		
3.1	Generate 1099-MISC forms and tapes for multiple types of income.	Y	
3.2	Have all applicable panel fields prefill as tailored to the operator/class to quicken system usage.	Y	
3.3	Have an extensive on-line help feature.	Y	Limited to certain users
3.4	Have automatic bank account reconciliation capabilities.	Y	
3.5	Have on-line information look-up capabilities for all processing functionalities.	Y	
3.6	Implement flexible reporting and inquiry.	Y	
3.8	Provide full audit trail capabilities.	Y	
3.9	Ability to produce 1042's for non-resident aliens	N/A	

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APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.0	**Fixed Assets**		
1.1	Automatic adjustment to current depreciation for any change in cost.	Y	
1.2	Allow multiple query options to search for an item when only limited information is available.	Y	
1.3	Ability to manually adjust depreciation expense and accumulated depreciation.	Y	
1.4	Mechanism to calculate gains and losses on the sale or disposal of assets.	Y	
1.5	Ability to add, rename and/or delete fields or change field lengths.	Y	
1.6	Ability to view net book value by year, period or in summary.	Y	
1.7	Ability to segregate federally depreciated equipment	N	
1.8	Ability to flow finished goods directly into fixed assets	N	

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FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.0	**Accounts Receivable**		*** No Accounts Receivable exists**
1.1	Allow for automatic interface of AR data to General Ledger.	*	
1.2	Customer information should include D&B Credit information, Remit to, Bill to and Sold to addresses.	*	
1.3	Definability of extensive credit profiles including, effective dates, credit limits, risk codes and credit classes.	*	
1.4	Ability to enter comments and have those comments print out	*	
1.5	Ability to write off certain amounts and retain that history	*	
1.6	Ease customer search look-up with customer grouping, prefixes and user tailored shortnames.	*	
1.7	Flexible Invoice formatting.	*	
1.8	Ability to send out standard letters to customers.	*	
1.9	Create and store terms codes for multiple discounts with dates and amounts	*	
1.10	Have flexible reporting and inquiry.	*	
1.11	Ability to produce summary and consolidated bills by customer.	*	
1.12	Ability to produce a weekly cash report	*	
1.13	Utilized EDI (electronic data interchange), fax or email to expedite credit and customer information	*	
1.14	Extensive Customer Aging Reports.	*	
1.15	Automatic archive features to purge selected historical information by customer, item, payments, etc.	*	

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FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.0	**Billing**		*** Treasury Dept. does all Billing**
1.1	Allow for automatic interface of Billing data to General Ledger and Accounts Receivable.	*	
1.2	Ability to autonumber invoices in multiple formats.	*	
1.3	Ability to define multiple payment terms.	*	
1.4	Ability to enter multiple salespeople on invoices.	*	
1.5	Ability to track duplicate invoices.	*	
1.6	Ability to adjust expenses for the salesperson's commissions.	*	
1.7	Ability to distinguish if all costs of an invoice have been incurred before commissions are calculated.	*	
1.8	Ability to specify different bill to and remit to addresses.	*	
1.9	Ability to flag tax-exempt orders.	*	
1.10	Ability to calculate sales tax based on ship to location.	*	
1.11	Ability to correct billing information and generate a new invoice.	*	
1.12	Ability to handle multi-company invoices.	*	
1.13	Ability to query on orders and invoices.	*	
1.14	Ability to handle multiple ship to addresses on an order.	*	
1.15	Ability to release orders when warehoused.	*	
1.16	Ability to specify various methods of shipping.	*	
1.17	Ability to set up national accounts.	*	

LUCAS COUNTY			
FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.0	**Publication Sub-Ledger**		*** Not applicable**
1.1	Interface available from Acumen	*	
1.2	Ability to store six digits for book numbers	*	
1.3	Ability to track book purchases by employees which are paid through a grant	*	
1.4	Ability to track work in progress expenses	*	
1.5	Ability to query on specific journal entries	*	
1.6	Ability to print all active projects	*	

LUCAS COUNTY			
FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.0	**Project Costing**		
1.1	Activate resource drilldowns back to GL journal entries, asset management detail, AP vouchers and PO's.	Y	Only concerned with construction in progress reporting cost (what has been spent).
1.2	Allow for outstanding internal controls through flexible security features down to individual panels and fields.	Y	
1.3	Assign project teams, managers and schedules with role start and end dates.	Y	Could be used by Facilities Dept.
1.4	Calculate billing amounts based on rates, contracts, milestones and limits.	Y	
1.5	Compress project data for archiving purposes.	Y	
1.6	Copy organizational structures for easier and more accurate system maintenance.	Y	
1.7	Create and use flexible formulas.	Y	
1.8	Create hierarchies to which projects/activities are attached to facilitate roll-up and drilldown capabilities.	Y	
1.9	Define any calculation on-line.	Y	
1.10	Define project approval sequences.	Y	
1.11	Define project justifications.	Y	
1.12	Distribute up-to-date project data to all on-line users using an intuitive graphical interface that shortens the learning curve.	Y	
1.13	Ease entry time requirements through user defaults fields.	Y	
1.14	Enjoy unlimited user definable analysis of project costs.	Y	
1.15	Enter unlimited length description fields for work orders and work assignments.	Y	
1.16	Facilitate cashflow forecasting.	Y	
1.17	Have an extensive on-line help feature.	Y	
1.18	Have complete integration with other applications and third-party applications.	Y	
1.19	Have flexible project costing Business Unit definition and TableSet sharing.	Y	
1.20	Have the ability to enter personal employee data with photographs.	Y	
1.21	Maintain the ability to easily build, maintain and retire physical assets.	Y	

LUCAS COUNTY			
FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.23	Post directly to PC or post to both project costing and GL.	Y	
1.24	Preclose, close and retire assets directly from PC with Asset Management integration.	Y	
1.25	Review costs by PO, voucher, employee, asset, journal ID and work order.	Y	
1.26	Review project-to-date actual, budgeted, committed and requisitions at many levels of detail.	Y	
1.28	Track activities such as priorities, work orders/assignments, adding/adjusting resources, and rate activity quality.	Y	
1.29	Track individual employee time in detail including charge-out rates, and user-defined details.	Y	
1.30	Track contruction-in-progress, major maintenance, and research and development at a user defined level of detail.	Y	
1.31	Unlimited user-definable analysis of project cost including budget to actual variances.	Y	
1.32	Use table design that reduces data redundancy and speeds data entry by providing responsive adaptable interfaces.	Y	
1.33	Ability to run 10% contingencies for a given project	Y	This is good to have.
1.34	Use the ability to calculate interest during construction.	N/A	

LUCAS COUNTY			
FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	RATING	COMMENTS
		(Y,N,C)**	
1.0	**Inventory**		*** Not applicable/Each dept. does their own inventory**
1.1	Allow for Item Master Organization.	*	
1.2	Allow for a default valuation account used to accumulate material and outside processing costs.	*	
1.3	Allow for demand classes that segregate demand and production into groups.	*	
1.4	Ability to handle subinventory.	*	
1.5	Ability to manufacture, order, or receive items in any unit of measure.	*	
1.6	Allow for multiple status attributes for items.	*	
1.7	Ability to define templates for sets of attribute values.	*	
1.8	Ability to define category and category sets for items.	*	
1.9	Ability to define item attributes at the Master or Organizational level.	*	
1.10	Provide lot number support.	*	
1.11	Provide serial number support for inventory transactions.	*	
1.12	Ability to define transaction source types.	*	
1.13	Ability to define multiple transaction types.	*	
1.14	Ability to view on-hand quantities, reservations, supply/demand, and available to promise.	*	
1.15	Ability to print a reorder point planning report.	*	

LUCAS COUNTY			
FINANCIAL SYSTEM QUESTIONNAIRE			
APPLICATION SOFTWARE EVALUATION MATRIX			
	SOFTWARE EVALUATION FACTOR:	**RATING** (Y,N,C)**	**COMMENTS**
1.0	**Grant Sub-Ledger**		
1.1	Ability to view month-to-date totals throughout the month	Y	
1.2	Ability to produce detailed reports which show prior month expenses by line and salaries by person including their percentage of effort for a grant	Y	
1.3	Ability to change grant account numbers on a purchase order and restrict posting access against the grant	Y	
1.4	Ability to rollup sub-project to project to year levels	Y	
1.5	Ability to view both indirect and direct costs	Y	Most all indirect costs are absorbed within existing county functions.
1.6	Ability to automatically forward an email if a grant number has been changed	Y	
1.7	Ability to print a list of all active grants and their respective budgets	Y	
1.8	Ability to set up templates based on specific agency requirements	Y	
1.9	Ability to define unique flags or comment fields	Y	
1.10	Ability to stop posting on a grant if the grant is closed	Y	
1.11	Ability to automatically transfer grant award dollars to the new year grant	Y	
1.12	Ability to control the allocated number of budgeted positions for a particular fund.	Y	Flag account when over budget.
1.13	Ability to transfer dollars between grants	Y	Budget group requirement.
1.14	Streamline the process to transfer and chargeback within Financials.	Y	Budget group requirement.

Technical Questions for ERP Vendors

The purpose of this section is to help Lucas County's DP/IS staff prepare for their participation in scripted demonstrations of each ERP product. We recommend that Lucas County ask the following questions of each ERP vendor before or during scripted demonstrations of the vendors' products. The vendors' answers to these questions will give Lucas County's technical staff insight into the functionality and use of each ERP system.

Questions

DP/IS staff members from Lucas County should ask the following questions to each ERP vendor before or during scripted demonstrations of their products:

1. Is security being granted or are you taking functions away?
2. How is security administered and by whom?
3. Is security profile driven?
4. At what levels can security be applied?
5. How is the system best managed? Centralized or decentralized and by whom?
6. How will new browser releases affect the system?
7. How will you notify Lucas County if your software will not function with the new browser release?
8. What constitutes a license for the application software? For database software? (Concurrent or named user?)
9. Will data warehouse or 3D database require separate license for the application? For the database?
10. For annual system upgrades for taxes/fixes—what is the average scope in respect to staff and time?
11. For major system releases—what is the average scope in respect to staff and time?
12. How many versions of the software should Lucas County maintain to ensure smooth software upgrades? (Consider production, maintenance, staging.)
13. If Federal and State of Ohio mandates affect the system, how will Lucas County receive notice?
14. How are backups performed while users are on-line?
15. When new releases are applied are there any required changes to the client? Are end-user customizations saved?

16. Explain how field level help works.
17. Are there any technical implications if two database servers are used?
18. What system activities (transactions) generate peak network traffic and what are statistics on that traffic for an enterprise of our size?
19. What workflow functionality is built into the system (instead of using a tool to develop workflow)?
20. Does the system use visual workflow builders?
21. Is there a way to monitor the status of workflow—can a person go see what step of approval a transaction is in?
22. Does the system audit workflows and keep track of cycle time to process efficiencies? Can they be analyzed by looking at the audit and timing data?
23. How are workflow exceptions, such as an interruption or a bottleneck handled? How does the system check the integrity of a workflow?
24. Can the system's workflow be extended across third party vendor accounting systems?
25. Does the workflow engine comply with any standards?
26. What is the process of setting up notifications or alerts sent to in-boxes?
27. If we want to change the way the application manages a transaction or a procedure, who would make that change—the user, an internal programmer, or a consultant?
28. How many of your clients are two versions or more behind?
29. How are tax tables in Payroll updated?
30. What third-party tools do business analysts commonly use for reporting from your system?
31. What insight can you provide on staffing approaches for this project?
32. What about your educational and training programs makes them stand out above others?

ERP Vendor Site Visits

To ensure vendor reliability, Lucas County should make site visits to one or more of the ERP vendor's existing clients. Seeing the ERP system working in actual environments will give ERP Implementation Team members great insight into how the product would work for Lucas County. Although site visits are normally conducted after the scripted demonstrations with the favored vendors, they can be done any time.

Site visits will allow the Lucas County team to see the ERP system working in settings and situations similar to their own. Site visits also allow team member to talk to actual users of the system about their implementation experience, including:

- Vendor customer service.
- Whether the system does what the vendor said it would.
- The implementation timeline—Did the implementation take as long as planned?
- Overall satisfaction with product.

The ERP vendor will probably suggest one or more sites to visit. If possible, representatives from Lucas County should visit at least one of these sites. However, make sure to go there with the understanding that this site is a "showplace" for the vendor—the ERP system will most likely work perfectly. Nevertheless, such a visit will be valuable because it will demonstrate that the product can work as advertised.

We strongly recommend that Lucas County select an additional site to visit. This site should be local (same region), preferably another county or city government, and operating under the same or similar conditions to Lucas County—political climate, same modules implemented, etc. Lucas County should work with the vendor to determine possible sites for this visit. However, Lucas County should determine the selection of the site—do not allow the vendor to drive the selection of this site.

Typically, representatives from the vendor will accompany you during all site visits.

The agenda for each site visit should include introductions of the representatives from Lucas County, the client site, and the vendor. The visit should also include viewing demonstrations of the product as the site uses it (make sure these are done in the user areas—not in a training or conference room). Finally, Lucas County representatives should have a candid discussion with the client's users about their experience implementing and using the ERP system—we suggest doing this discussion privately, without the vendor's representatives. In this discussion, ask the users how the system has met their expectations on functionality, product support, and ease of implementation.

Evaluating ERP Implementation Consultants

The purpose of this section is to help Lucas County prepare for selection of a consulting firm for the County's upcoming ERP implementation project. Lucas County should research each prospective consulting company carefully and ensure that the selected company can and will fulfill all of its commitments to the County. We provide the following list of questions and requests for information for Lucas County to ask each prospective consulting company.

Questions

Lucas County should receive the following information from all prospective ERP implementation consulting firms:

1. Provide us with a profile of your company.
2. How many times has your company implemented ERP systems?
3. Is your company contract-based or employee-based? (Seek out companies that use employees instead of contract workers.)
4. Tell us about an ERP implementation your company worked on that failed.
5. Describe your project management approach.
6. Describe your implementation management methodology. (Ask to see a copy—although the vendor will probably not give you a copy, it is good to see that the company has a methodology.)
7. Tell us about your last ERP implementation client and how your methodology worked with them.
8. What services do you offer that complement ERP implementation?
9. What is your relationship to the ERP vendor(s)?
10. How long have you partnered with the ERP software supplier(s)? (Look for the maximum number of years and only select true Alliance Partners.)
11. Are you certified with ERP vendors? If yes, which ones?
12. How long has your company been doing ERP implementations?
13. How many years, on average, do your consultants have with your company?

14. How many years, on average, do your consultants have doing ERP implementations?

15. Describe the financial stability of your company. Provide us with documentation to corroborate.

16. Conduct interviews with the proposed Project Manager and a few of the company's implementation consultants.

17. Describe your company's experience with Management Consulting, e-business, and security services. (All are necessary for a successful ERP implementation.)

Business Process Redesign Strategy

Overview

This section presents our strategic approach for business process redesign as it relates to Lucas County HR, Payroll, and Financial processes. Our analysis is based on interviews with several members of the Lucas County leadership team, including Ed Ciecka, Keith Fournier, Dan Bridge, Gwen Moore, Jan Jump, Bridgette Kabat, and Scott Smith. Based on our recommendations with them, our business process expertise, and experience in integrating process change with our clients' ERP implementations, we have made specific recommendation for Lucas County's process redesign approach. This approach should be used in conjunction with our Business Process Redesign methodology (summarized on pages 77 to 82).

Lucas County leadership appears ready and willing to undergo a Business Process Redesign effort. The members of the Strategic Implementation Plan committee and other members of Lucas County leadership have discussed their readiness and need to update and streamline internal processes. They understand that doing so is important, regardless of the ERP system. However, they also understand that the combination of improved processes AND the new ERP system will provide greater long-term benefits to the County.

When an organization undertakes a major system replacement, there is a "burning platform" for change that must be taken advantage of. Once the implementation is underway, the organization will be properly focused on the effort to install the system and will not have time to focus on improving business processes, other than opportunities directly related to the software. After the implementation, the organization's focus will shift to adapting to the new system as it has been installed. If processes have not been analyzed and redesigned, the organization risks automating archaic processes that will require customizations. Rather than presenting an opportunity, customizing inefficient business processes (which is very common) helps to solidify the poor processes rather than improve on them.

In our experience and research, we have found that many organizations use only about 30% of their ERP systems' capabilities. The main reason is that they did not update and redesign their processes as they implemented the ERP system. They merely maintained their old processes and loaded them into the new system. These organizations are unable to leverage the capability of the software and miss a number of improvement opportunities. The effectiveness of the ERP system in such a situation is very limited.

Along with the information in this document, we provided a thorough Business Process Redesign plan for Lucas County's ERP implementation. The plan is published in a separate Microsoft Project file, titled "**LC BPR Plan.mpp**."

As mentioned above, performing a business process assessment will allow the County to make intelligent and educated decisions before, during, and after the ERP implementation. This approach, when combined with a change management discipline, lays a foundation to ingrain a continuous improvement mentality with the County's employees. The impact at each stage is discussed briefly below:

Before the ERP implementation—

By performing a process redesign now, before the ERP implementation, Lucas County can undertake process redesign initiatives that will lay a foundation for the County to take advantage of the ERP systems capabilities. For example, Lucas County departments will be able to eliminate non-value-added work and business processes steps. During this time, Lucas County will also be able to identify internal processes that can be automated using the ERP system.

During the ERP implementation—

Lucas County can set up the system and populate tables in a way that will leverage the functionality and capability of the ERP system when it goes live. Doing so yields positive results, as the users will begin to realize the advantages of the new system as soon as they start using it. The County can also continue to implement the shorter-term initiatives and process improvements that will move them closer to their long-term vision. During the ERP implementation, these "small wins" will demonstrate the value of the new system to everyone that will use it and will be an important part of the overall change management effort.

After the ERP implementation is complete—

Lucas County can begin to work on longer-term initiatives that were either dependent on the ERP system being in place or major undertakings. We recommend that Lucas County not start these larger efforts before or during the ERP implementation. In our experience, these large-scale changes add significant risk to the ERP implementation by making radical changes to the processes and the system at the same time. This limits the ability to test the changes or validate the success and acceptance of the process change.

Acuent believes that now, before implementing the ERP system, is the time to begin Business Process assessment, analysis, and the associated redesign. This will allow Lucas County to evaluate processes, determine desired functionality and process flow, and determine the right changes to be made before, during, and after the ERP system implementation.

Acuent's Business Process Redesign Methodology

Acuent employs a three-phase methodology in its Management Consulting/Business Process Redesign engagements. We can adapt this proven approach to our role in any project to define the appropriate scope and skills required. Our methodology ensures that no stones are left unturned and all pertinent options receive sufficient consideration.

Each phase has a structured approach with specified deliverables, ensuring that the appropriate research and analysis are performed and that options and opportunities are clearly identified and defined in the final work product(s). At the end of each phase, we make clear recommendations that summarize findings and define an action plan to facilitate continued progress. The actions taken in the Redesign and Implementation phases are completely dependent on the findings in the Business Process Assessment phase.

Approach

Acuent's Business Process Redesign methodology is a proven, structured approach to review, assess, redesign, and implement business process change initiatives. This methodology represents a theoretical framework that enables Acuent to focus on end-to-end processes and develop a roadmap that provides a strategic vision, detailed recommendations, and corresponding initiatives to reach the desired future state. Business Process Redesign projects (also referred to as change initiatives) incorporate business measurement, cost/benefit analysis, and post- implementation reviews to clearly measure the process improvements implemented.

Our methodology is comprised of three distinct phases:

Phase I: Business Assessment
Phase II: Redesign
Phase III: Implementation

The following summarizes the objectives, deliverables, and action plans for each phase of the Business Process Redesign methodology. Our detailed methodology consists of more than 30 pages of detailed action steps to ensure consistency and thoroughness in our approach.

Phase I—Business Assessment

A. Project Planning, Scoping, and Initiation

Objective

Determine the expectations and business objectives of the client, validate any concerns raised by the client, and formalize both into an overall project scope.

Deliverables

Project documentation to clarify scope, objectives, and the overall assessment plan.

Action Plan

The Acuent project team meets with client management and key business users to discuss scope and clarify objectives. This understanding is used to develop a project plan and subsequent documentation. The information compiled is validated and further developed in the assessment kickoff.

B. Process Evaluation

Objective

Identify the specific areas for improvement efforts.

Deliverables

Documentation of the current state (including high-level process maps) and detailed recommendations for process changes.

Action Plan

Initial data gathering is performed using existing documentation, client interviews, and process mapping. Identify existing business issues/concerns, as well as potential solutions, by analyzing the data gathered. Additional research is then performed to better understand the potential of each opportunity and draft initial change recommendations.

C. Visioning

Objective

Develop a high-level design of the future state of the end-to-end process(es).

Deliverables

Documentation of the future state (including high-level process maps) and revised recommendations. When implemented, the recommendations allow the end-to-end process to evolve to the desired future state. These recommendations include specific change initiatives, with quick hit opportunities highlighted.

Action Plan

The future vision of the process(es) are developed and validated with experts and stakeholders. Additional recommendations to reach the vision are identified. A business case with qualitative (user and company benefits) and quantitative (ROI, total cost savings, etc.) measures are developed, where necessary, to gain support.

Phase II—Redesign

A. Definition of the Redesign Project List

Objective

To better understand the benefits and potential impact of each initiative through more detailed scoping of the individual initiatives. This allows the team to prioritize the initiatives and formulate a comprehensive implementation plan.

Deliverables

A well-defined and documented project list, that includes a draft of the current period's project slate and initiatives planned for future phases.

Action Plan

Scope and document each initiative on the list. Scope definition includes capturing cost and volume metrics, issues, concerns, and high level mapping for each specific process. A cost/benefit analysis may be performed to quantify the initiative's potential impact. Project interdependencies and prerequisites should be identified at this point to allow the entire initiative list to be logically grouped (i.e. by process or function), prioritized, sequenced and validated.

B. Process Redesign

Objective

To redesign targeted areas and processes identified with each project.

Deliverables

Detailed process maps and accompanying narratives to document and explain the new processes.

Action Plan

A "blank sheet" approach to redesign is taken for each process, to allow for any potential solution or enabler. Best practice data is leveraged and potential options are discussed with process owners, and resources with functional, technology, Web, and ERP expertise. Potential software solutions are evaluated to understand advantages and disadvantages. Drafts of the redesigned process are developed and validated with business process owners, customers and ultimately approved by management. Revisions are made to finalize and fully document the redesigned process.

C. Implementation Planning

Objective

To establish detailed plans for each project on the current period initiative slate.

Deliverables

The approved list of projects to be implemented, along with detailed project documentation to explain and communicate roles and responsibilities, project planning (resources, milestones, tasks, etc.), scope, and other relevant information.

Action Plan - Individual Initiative Planning

Prepare individual project plans to ensure all relevant information and factors have been considered. This may require additional research and documentation in determining project resources and timing. A meeting to gain approval to begin the project is held to reinforce the project objectives, approach, cost, and timing.

Action Plan - Program Planning

NOTE: Program planning is incorporated to manage large scope efforts across multiple businesses or functions.

Draft the overall program strategy, including a graphical program timeline, to use in developing buy-in with stakeholders. Finalize the program strategy and current period initiative slate. Determine how resources will be managed across projects and areas. Review the program approach with sponsors, project leaders and stakeholders to facilitate coordination.

Phase III—Implementation

A. Project Execution

Objective

Successfully execute the current period's projects.

Deliverables

The successful implementation of the project(s), as identified and approved in the redesign phase.

Action Plan

Hold a kick off meeting with the team to review the project plan and clarify roles and responsibilities. Execute the project plan, monitoring progress and resolving issues and concerns as they arise. Address any change management items, such as training, to adjust to new processes, specific policy changes planned and/or change management training for the project team.

B. Post Implementation

Objective

Validate expected results, confirm client acceptance, and establish plans for ongoing evaluation.

Deliverables

The actual savings/benefits realized by the change initiative are determined. Potential feedback mechanisms can be developed to better understand the process. Follow up projects, or revisions to existing projects, are proposed.

Action Plan

Determine the success of the project execution by evaluating the implemented product, which can include calculating realized versus expected results, determining future improvement efforts, and establishing measurements for continued analysis and enhancement.

Recommendations

The following are our recommendations for Lucas County's Business Process Redesign program. In developing the recommendations we assumed that:

- The Finance function is centralized.
- The external Business Process Redesign expert will conduct no more 10 interviews in each scope area.
- The Lucas County Project Manager is dedicated full time to this effort and participates in all activities.
- Other Lucas County employees, including process owners and participants, will be available as needed for interviews, validating documentation, assisting in pulling selected test samples, and performing test work.
- All of the recommended project roles are defined consistently with the definitions in the Strategic Implementation Plan. (For more detail, refer to the "Project Team—Roles and Responsibilities" chapter, beginning on page 20.)
- All of the recommended project roles are filled by qualified representatives from the applicable functional areas.
- The Human Resources function will be adequately involved and represented to ensure new process visions include input from all areas.

Our recommendations:

- **Initiate a Business Process Assessment and Redesign program in the Finance areas**

  Performing process assessment and redesign work with the Finance departments will allow them to streamline processes and take full advantage of the ERP system, once it is implemented.

  For a county the size of Lucas County, the Business Assessment (Phase I of our Business Process Redesign methodology) should take approximately three to four months with the appropriate County participation. The process assessment for Finance should include the following steps:

  - Identifying functional goals and objectives, or validating existing goals, for each in scope area.
  - Documenting current processes (as necessary).
  - Performing Visioning sessions in each major functional area.
  - Analyzing current processes for inefficiencies and non-value added work.
  - Identifying improvement opportunities, quantifying the impact and ROI (as necessary) to the organization, and drafting initial recommendations.

- Aligning appropriate best practices with each function.
- Drafting an initiative list.
- Prioritizing opportunities and determining which opportunities can be done before, during, or after the ERP implementation.
- Beginning process redesign immediately, according to the prioritization.

Lucas County should begin this as soon as possible (October 2001). As described above, the timing for the Redesign phase (Phase II of our Business Process Redesign methodology) varies greatly and is based on the number and types of initiatives proposed in the Business Process Assessment and Lucas County resources available for the initiatives.

- **Perform an accelerated Business Process Assessment in the HR/Payroll areas**

  The Lucas County Payroll function, led by Dan Bridge, has already documented the Payroll processes and has a strong vision about the future process improvement opportunities in Payroll. However, many of these ideas have not been documented or analyzed as part of the larger, end-to-end HR/Payroll processes. Our conversations with Dan and others noted that Dan has already thought through many of these areas and ideas. As a result, we recommend that the Payroll function document the future opportunities it has planned and expand its scope to incorporate the process steps that are initiated with HR transactions/actions.

  The process assessment for HR/Payroll should include the following steps:

  - Identifying functional goals and objectives, or validating existing goals, for each in scope area.
  - Documenting current HR processes (not already in Dan Bridge's original scope).
  - Reviewing end-to-end Payroll and HR processes.
  - Performing limited Visioning sessions to validate Dan's vision.
  - Aligning appropriate best practices with each function.
  - Identifying improvement opportunities and drafting initial recommendations.
  - Drafting an initiative list.
  - Prioritizing opportunities and determining which opportunities can be done before, during, or after the ERP implementation.
  - Beginning process redesign immediately, according to the prioritization.

As with our recommended Finance assessment, Lucas County's HR and Payroll departments should begin this project as soon as possible.

- **Recruit "visionaries" from each functional area to lead the Business Process Assessments**

  Each functional area in Lucas County should name its most "visionary" person to lead its process assessment and redesign effort. In addition to being receptive to new ideas and change, each Process Assessment Leader should have a strong personality, excellent project management skills, and be well respected by the organization.

  Dan Bridge is a great example of the type of person to fill this role for Payroll. He demonstrates a clear vision for the future of Payroll and is very well respected inside and outside Lucas County. Based on our observations, Jan Jump and Bridgette Kabat would also be excellent Process Assessment Leaders. Both Jan and Bridgette are obviously open to new ideas, are very good at what they do, and are well respected in the organization.

- **Partner each Process Assessment Leader with a Business Process Redesign expert**

  Each Process Assessment Leader should have a process expert to assist them in their efforts. Having an expert in process reengineering ensures a thorough approach, provides an outside perspective, and yields added insight into functional best practices.

Risk Management Plan

Overview

This document presents our Risk Management Plan for Lucas County's ERP implementation project. The plan includes an assessment and analysis of risks to the success of the project and our recommendations to minimize those risks. Our analysis is based on interviews with Lucas County leaders and subject matter experts, including Dan Bridge, Diane Ducey, Keith Fournier, Jan Jump, Bridgette Kabat, Gwen Moore, Tom Nichter, Carl Rimmel, and Scott Smith. Our analysis and recommendations are based on our broad experience with ERP implementations in other organizations.

We do not intend this Risk Management Plan to be an all-inclusive summary of every possible risk to Lucas County's ERP project. As with any large project, there may be risks that cannot be foreseen. Strong project management is critical to the success of the project and assumed in this document. This document focuses on specific risks related to Lucas County's planned ERP implementation.

A comprehensive risk management program includes:

- Identifying possible risks,
- Assessing potential impact of risks,
- Developing and implementing plans to minimize severe negative effects, and
- Developing a risk response plan to avoid, mitigate, or accept risks.
  - Avoiding risk—eliminating a specific threat, usually by eliminating the cause.
  - Mitigating risk—reducing the expected impact of a risk event by reducing the probability of occurrence.
  - Accepting risk—accepting the potential consequences of a risk.

Following a thorough risk management plan improves the effectiveness of any project. A recent Standish Group survey of 8,000 software projects found that the average project exceeded its planned budget by 90% and its schedule by 120%. According to several industry studies, fewer than half of software projects finishes within their planned schedules and budgets.

Risks Common to ERP Implementation Projects

The following list illustrates several risks common to ERP implementations:

- The organization's executive management or other key staff members were uninterested or only mildly interested in the project (i.e. no product sponsorship).
- The organization did not specifically identify the audience for the project.
- The organization did not prove to the audience that completing the project would eliminate problems and/or improve service (i.e. benefits not explained).
- The organization did not perform proper preliminary work to prepare and plan for the project.
- The organization did not possess or acquire the required skills and knowledge to complete the project successfully.
- The various organizational units involved in the project did not communicate or cooperate sufficiently.
- The organization did not have a clearly defined strategy for the project.
- The organization did not set sufficient performance goals.
- The organization did not contain the scope of the project appropriately.
- The organization did not have sufficient representation and participation from the user audience to develop the ERP system.
- The organization did not clarify or agree to the project's roles and responsibilities.
- The organization did not use a formal analytical approach to assess the impact of interdependencies in the project.
- The organization underestimated the actual work effort required to execute the ERP implementation plan.
- The organization did not allocate enough full-time project team members.
- The organization was too dependent on outside expertise and did not perform knowledge transfer during the implementation.
- The organization did not have an adequate quality assurance program.

Positive Project Attributes at Lucas County

Lucas County has demonstrated many attributes and acted to mitigate potential risk and achieve a successful ERP implementation. Among these positive attributes:

- Lucas County leadership is very interested in the ERP implementation project and understands its importance and value, and has publicly supported the project.
- The Lucas County HR department and some members of the Finance departments are aware of the benefits of an effective ERP system and how it would improve their work environment.
- Lucas County is performing a great deal of the necessary preparation for its ERP implementation.
- Communication among the departments that we have worked with during this Strategic Implementation Plan project is strong and effective.
- Lucas County has a clear strategy for the ERP implementation project, driven by the vision of Keith Fournier and Dan Bridge.
- Lucas County has clearly defined the scope of its ERP implementation at a high level and is preparing a more detailed scope plan as part of the Strategic Implementation Plan.
- The groups of users are well represented in the Steering Committee.
- Lucas County is using a strong analytical approach to determine the interdependencies of the ERP project.
- Steering Committee members seem very aware of the commitment that will be required among their departments to achieve an effective ERP implementation.

Significant Risks at Lucas County

The following are factors that will affect Lucas County's implementation of an ERP system. We recommend that Lucas County evaluate these risks and decide whether they can overcome these risks before implementing a new ERP system. ***To achieve a successful ERP implementation, in addition to addressing these risks, we strongly recommend that Lucas County undertake a structured Risk Management program***.

The 2002 Election

In the year 2002, the County Auditor will be up for re-election. Since the DP/IS and Payroll departments report directly to the County Auditor, a possible change in the Auditor's office could have a great impact upon the sponsorship, direction, and commitment of this project. Furthermore, in this situation, there could be additional changes in personnel that report to the Auditor currently, presenting a risk that replacements would not have the same level of skill or experience. This would jeopardize the overall commitment to the ERP project, as well as present a risk that new employees may revise the project scope, approach, and vision.

We recommend that Lucas County consider this risk seriously before deciding to implement an ERP system. Lucas County should develop a contingency plan to address this issue. We categorize this risk as high—critical to the success of the ERP implementation project.

Business Process Redesign / Change Management

To facilitate a successful implementation of its ERP system—and to use the system to its fullest—it is imperative for Lucas County to change its business processes to adapt to meet their needs for the current and future environments. This includes planning, where appropriate, to leverage the capabilities of the new system.

We recommend that Lucas County spend significant time to document, analyze, and improve its business processes, including developing visions for the long-term processes. The County must also gain commitment from all involved parties to adapt to the new system. Without a large level of commitment, Lucas County will have trouble implementing business process change and ultimately will not be able to make use of the functionality an ERP system can offer. We categorizes this risk as medium to high—critical to the long-term success of the project and having significant impact to the effectiveness of the newly implemented system, as well as the level of user satisfaction.

For more detail about Acuent's recommendations, refer to page 42 for our Business Process Redesign strategy and page 157 for our Change Management plan.

Acceptance by the User Audience

Departments in Lucas County currently perform many redundant functions. Lucas County needs to gain the acceptance from its user population to eliminate these custom programs and redundant practices. The County must also gain commitment from all of its departments to use the ERP system to its fullest.

It is clear that most of the members of the current Steering Committee are enthusiastic and committed to the ERP project. However, it is much less clear that the "rank-in-file" members of the user departments accept (or will adapt to) the change that the ERP system will bring. Gaining the "buy-in" from this group will be vital to a successful implementation project.

We recommend that Lucas County obtain a commitment from each department to accept and embrace the ERP system, which includes a specific commitment from each department to eliminate custom programs. Without this commitment, Lucas County faces a less successful ERP implementation and a less effective system. We categorize this risk as medium to high—somewhat critical to the success of the project and having a significant impact upon its implementation.

Much of the Lucas County's work to improve user acceptance relates to communication and change management. For more detail about our recommendations, refer to the Change Management/Communication Plan section on page 157.

Acceptance by the Finance Departments

Acuent has identified that there is a lack of full commitment to adapt to a new ERP system from some members of the County's Finance departments. This presents a risk to the success of the ERP implementation, especially since Lucas County desires to use a phased approach to its ERP implementation. The risk is that some departments in the Finance area will take a "wait and see" attitude toward the first phase (implementation of the HR modules) before committing fully to the implementation of Finance modules.

Acuent recommends that Lucas County gain a full commitment from the Finance departments to accept and implement a new ERP system. We categorize this risk between medium and high—somewhat critical to the success of the project and having a significant impact upon its implementation.

Turnover

Losing staff members during Lucas County's ERP implementation would diminish (or at least postpone) the effectiveness of the implementation. Many similar county and city governments did not experience unusual turnover during and after their ERP implementations. However, each of the IS departments in these governments had many staff members with very long tenure—the average for most of the governments was over 12 years per person, some with over 15 years per person. According to each of the governments' representatives, turnover was not a problem for them because their staff members already had so much time invested with them.

The average tenure in Lucas County's DP/IS department, however, is five years. Among some of the job titles in the department, the average is much less. For example, the average longevity among the six Network Technician II's is under four years. The average longevity for the three Computer Operators is two years.

This lower length of service in the DP/IS department makes Lucas County more vulnerable to turnover during and after the ERP implementation. We categorize this risk as medium—not critical to the success of the project, but having significant impact to the satisfaction level from its users.

For detail about the longevity of the members of the Lucas County DP/IS department, refer to page 191 in the Appendix of this document.

No Current Plan to Supplement Staff

Currently, Lucas County does not have a plan to augment its staff for the upcoming ERP implementation. Specifically, as we mentioned in the Organizational Structure and Resource Assessment section (page 5), Lucas County will need a Project Manager, a Change Management Specialist, and a DBA. Options have been discussed, but we anticipate that Lucas County is awaiting the delivery of this Strategic Implementation Plan before moving forward on this step.

Lucas County can mitigate the risk by adding these positions to its ERP project team either through new hires or through engaging consulting resources with the desired expertise. We categorize this risk as high—critical to the success of the ERP implementation project. However, there is adequate time to address this risk and our conversations with management indicate that they intend to acquire the necessary resources and associated skill sets.

Inadequate Project Funding

Inadequately funding the ERP implementation project is another risk that Lucas County faces. Once the County begins investing in an ERP system, it is vital to continue the implementation to completion. This is especially true since Lucas County will take a phased approach to the implementation. Discontinuing or reducing funding to the project would seriously inhibit the project's success and the ERP system's effectiveness.

Based on our conversations within the County, however, Lucas County leadership is willing to fund the ERP project to its successful conclusion. We do not anticipate funding problems associated with the ERP implementation. We categorize this risk as high—critical to the success of the ERP implementation project.

Analyzing Risks at Lucas County

Managing risk provides a level of comfort that all options and outcomes have been considered AND allows for more informed decisions. Understanding Lucas County is the starting point of a risk management process. Once the ERP Project Team understands the risks to the County, all team members will be able to make sound decisions on whether to accept, mitigate, or transfer the risks. In addition, risk management pulls together data from other security areas, such as vulnerability analysis and operations monitoring, to provide an overall view of business risk.

We recommend that Lucas County conduct its own risk assessment as soon as possible. Performing such an assessment will help the Lucas County ERP Project Team understand what problems they might face and what the consequences of the problems might be.

After identifying risks and potential problems, Lucas County must develop and implement a process to analyze and subsequently handle the risks. Risk analysis is a process in which risks are examined in detail through each phase of the implementation. The purpose is to determine the extent of the risks, how they relate to one another, and which ones are the most important.

To begin the process, we recommend that Lucas County use the Risk Assessment Chart (on page 95). This tool will yield the potential impact that each risk poses for the County's ERP implementation project by determining the likelihood that each will occur and the magnitude of the consequences (if it does occur). The chart includes risks most common with ERP implementations and provides an excellent starting point to assist in identifying risks. We included an editable version of the Risk Assessment Chart in a separate Microsoft Word document, titled "**LC Risk Assessment Chart.doc**."

Use the following instructions to complete the Risk Assessment Chart:

Probability of Occurrence—The likelihood that a risk will occur.
Use the following scoring system:

1 = "Unlikely"
2 = "Possible"
3 = "Moderate"
4 = "Likely"
5 = "Very Likely"

Impact—The impact of the risk to the organization.
Use the following scoring system:

1 = "Little"
2 = "Some"
3 = "Moderate"
4 = "Great"
5 = "Very Significant"

Risk Level—Yields the comparative importance of each item. To calculate, multiply the Probability of Occurrence by the Impact across each row.

Priority Ranking—Lucas County's order of priority for the risk items. Number the rows in order of Risk Level. For example, the item with the largest Risk Level is 1, the second largest is 2, and so on.

RISK ASSESSMENT					
	Risk Area	**Probability**	**Impact**	**Risk Level**	**Priority Ranking**
	A. Technical Risks				
1.	Data Communications	1 2 3 4 5	1 2 3 4 5		
2.	Hardware	1 2 3 4 5	1 2 3 4 5		
3.	Infrastructure	1 2 3 4 5	1 2 3 4 5		
4.	Operating Environment	1 2 3 4 5	1 2 3 4 5		
5.	Software Design (level of modification)	1 2 3 4 5	1 2 3 4 5		
6.	System Complexity	1 2 3 4 5	1 2 3 4 5		
7.	Testing	1 2 3 4 5	1 2 3 4 5		
	B. Programmatic Risks				
1.	Budget	1 2 3 4 5	1 2 3 4 5		
2.	Contract Support	1 2 3 4 5	1 2 3 4 5		
3.	Personnel Availability	1 2 3 4 5	1 2 3 4 5		
4.	Personnel Skills	1 2 3 4 5	1 2 3 4 5		
5.	Political Environment	1 2 3 4 5	1 2 3 4 5		
6.	Requirements Changes (Scope)	1 2 3 4 5	1 2 3 4 5		
7.	Software Vendor	1 2 3 4 5	1 2 3 4 5		
8.	Team Communications	1 2 3 4 5	1 2 3 4 5		
	C. Supportability Risks				
1.	Training and Training Support	1 2 3 4 5	1 2 3 4 5		
2.	Documentation	1 2 3 4 5	1 2 3 4 5		
3.	Reliability and Maintainability	1 2 3 4 5	1 2 3 4 5		
4.	Facility Considerations	1 2 3 4 5	1 2 3 4 5		
5.	Computer Resources Support	1 2 3 4 5	1 2 3 4 5		
6.	Interoperability Considerations	1 2 3 4 5	1 2 3 4 5		
	D. Cost Risks				
1.	Sensitivity to Technical Risk	1 2 3 4 5	1 2 3 4 5		
2.	Sensitivity to Programmatic Risk	1 2 3 4 5	1 2 3 4 5		
3.	Sensitivity to Supportability Risk	1 2 3 4 5	1 2 3 4 5		
4.	Sensitivity to Schedule Risk	1 2 3 4 5	1 2 3 4 5		
5.	Estimating Error	1 2 3 4 5	1 2 3 4 5		
	E. Schedule Risks				
1.	Sensitivity to Technical Risk	1 2 3 4 5	1 2 3 4 5		
2.	Sensitivity to Programmatic Risk	1 2 3 4 5	1 2 3 4 5		
3.	Sensitivity to Supportability Risk	1 2 3 4 5	1 2 3 4 5		
4.	Sensitivity to Cost Risk	1 2 3 4 5	1 2 3 4 5		
5.	Degree of Concurrency	1 2 3 4 5	1 2 3 4 5		
6.	Number of Critical Path Items	1 2 3 4 5	1 2 3 4 5		
7.	Estimating Error	1 2 3 4 5	1 2 3 4 5		

Scope Management Plan

Overview

Scope management includes the processes required to ensure that the Lucas County ERP project includes all of the tasks required—and only the tasks required—to complete the project successfully. Scope management primarily deals with defining and controlling what is or is not included in the project. Lucas County should practice scope management when implementing its ERP system. The major scope management processes that Lucas County should practice are listed below:

1. **Initiation**—committing the organization to begin the next phase of the project.
2. **Scope Planning**—developing a written scope statement as the basis for future project decisions.
3. **Scope Definition**—subdividing the major project deliverables into smaller, more manageable components.
4. **Scope Verification**—formalizing acceptance of the project scope.
5. **Scope Change Control**—controlling changes to the scope project.

Initiation

Initiation is the process of formally recognizing that a new project exists or that an existing project should continue into its next phase. This formal initiation links the project to the ongoing work of the organization. In some organizations, a project is not initiated formally until a feasibility study, a preliminary plan, or another equivalent form of analysis has been separately initiated. Some types of projects, especially internal service projects and new product development projects, are initiated informally and some limited amount of work is done in order to secure the approvals needed for formal initiation. Projects are typically authorized as a result of one or more of the following:

- A market demand.
- A business need.
- A customer request.
- A technological advance.
- A legal requirement.

Inputs to Initiation

1. **Product or service description**. The description of the product or service documents the characteristics of the product or service that the project intends to create. This description will generally have less detail in early phases and more detail later as the product characteristics are progressively elaborated.
2. **Strategic plan**. All projects should be supportive of the organization's strategic goals. The Project Team should consider the organizations strategic plan in project selection decisions.

3. **Project selection criteria**. Project selection criteria are typically defined in terms of the product of the product of the project and can cover the full range of possible management concerns (financial return, market share, public perceptions, etc.).
4. **Historical information**. The Project Team should consider historical information about both the results of previous selection decisions and previous project performance whenever it is available.

Tools and Techniques for Initiation

1. **Project selection methods**. Project selection methods generally fall into one of two broad categories:
   - Benefit measurement methods-comparative approaches, scoring models, benefit contribution, or economic models.
   - Constrained optimization methods-mathematical models using linear, non-linear, dynamic, integer, and multi-objective programming algorithms.
2. **Expert judgment**. Expert judgment will often be required to assess the inputs to this process. Such expertise may be provided by any group or individual with specialized knowledge or training and is available from many sources including:
   - Consultants
   - Professional and technical associations
   - Industry groups
   - Other units within the performing organization.

Outputs from Initiation

1. **Project Charter**. Lucas County should produce a project charter—a document that formally recognizes the existence of a project. It should include, either directly or by reference to other documents:
   - The business need that the project was undertaken to address.
   - The project description

   The project charter should be issued by a manager external to the project and at a level appropriate to the needs of the project. It provides the project manager with the authority to apply organizational resources to project activities.
2. **Project Manager**. Lucas County should identify and assign a project manager. In general, the Project Manager should be identified and assigned as early in the project as possible. The Project Manager should always be assigned before the start of the project plan execution and preferably before much project planning has been done.

3. **Constraints**. Lucas County should identify constraints to the ERP project—factors that will limit the Project Team's options regarding scope, staffing, and schedule. For example, when a project is performed under contract, the contractual provisions are constraints.
4. **Assumptions**. Lucas County should identify assumptions—factors that, for planning purposes, will be considered true, real, and certain.

Scope Planning

Scope Planning is the process of developing a written scope statement as the basis for future project decisions including the criteria to determine if the project or phase has been completed successfully. A written scope statement is necessary for both projects and subprojects. The scope statement forms the basis for an agreement between the Project Team and the users by identifying both the project objectives and the major project deliverables. If all of the elements of the scope document are already available, this process may involve little more than physically creating the written document.

Inputs to Scope Planning

1. Product description
2. Project Charter
3. Constraints
4. Assumptions

Tools and Techniques for Scope Planning

1. Lucas County should produce a product analysis. Product analysis involves developing a better understanding of the product of the project. It includes techniques such as system engineering, value engineering, value analysis, function analysis, and quality function deployment.
2. Lucas County should perform a benefit/cost analysis. A benefit/cost analysis involves estimating tangible and intangible costs and benefits of various project alternatives and using financial measures such as return on investment or payback period to assess the relative desirability of the identified alternatives.
3. Lucas County should identify alternatives. This is a generic term for any technique used to generate different approaches to the project. There are a variety of general management techniques often used here, the most common of which are brainstorming and lateral thinking.
4. Expert judgment.

Outputs from Scope Planning

1. Lucas County should produce a scope statement. The scope statement provides a documented basis for making future project decisions and for confirming or developing common understanding of project scope among stakeholders. As the project progresses, the scope statement may need to be revised or refined to reflect changes to the scope of the project.
2. Lucas County should produce supporting detail. Supporting detail for the scope statement should be documented and organized as needed to facilitate its use by other project management processes. Supporting detail should always include documentation of all identified assumptions and constraints.
3. Lucas County should initiate a Scope management plan. This document describes how project scope will be managed and how scope changes will be integrated into the project.

Scope Definition

Scope definition involves subdividing the major project deliverables (as identified in the scope statement above) into smaller, more manageable components to:

- Improve the accuracy of cost, time, and resource estimates.
- Define a baseline for performance measurement and control.
- Facilitate clear responsibility assignments.

Proper scope definition is critical to project success. When the scope definition is poor, final project costs can be expected to be higher because of the inevitable changes which disrupt project rhythm, cause rework, increase project time, and lower the productivity and morale of the workforce.

Inputs to Scope Definition

1. Scope statement
2. Constraints
3. Assumptions
4. Other planning inputs
5. Historical information

Tools and Techniques for Scope Definition

Project Plan Templates. A project plan from a previous project can often be used as a template for a new project. Although each project is unique, project plans can often be reused.

Outputs from Scope Definition

Lucas County should produce a Project Plan. A project plan is a deliverable-oriented grouping of project elements that organizes and defines the total scope of the project. Work not on the project plan is outside the scope of the project.

Scope Verification

Scope Verification is the process of formalizing acceptance of the project scope by the stakeholders (the sponsor, the Project Team, the Steering Committee, the user community). It requires a review of work products and results to ensure that all were completed correctly and satisfactorily. If the project is terminated early, the scope verification process establishes and documents the level and extent of completion.

Inputs to Scope Verification

1. **Work results**—determining which deliverables have been fully or partially completed or which costs have been incurred or committed.
2. **Product documentation**. Documents produced to describe the project's products must be available for review.

Tools and Techniques for Scope Verification

Inspection. Inspection includes activities such as measuring, examining, and testing undertaken to determine whether results conform to requirements. Inspections are variously called reviews, product reviews, audits, and walk-throughs.

Outputs from Scope Verification

Lucas County should produce documentation that the user has accepted the product of the project or phase must be prepared and distributed. Such acceptance may be conditional, especially at the end of the phase.

Scope Change Control

Scope change control deals with (a) influencing the factors that create scope changes to ensure that changes are beneficial, (b) determining that a scope change has occurred, and (c) managing the actual changes when and if they occur. Scope change control must be thoroughly integrated with the other control processes (time control, cost control, and quality control).

Inputs to Scope Change Control

1. Work Breakdown structure
2. Performance reports. Performance reports provide information on scope performance such as which interim products have been completed and which have not. Performance reports may also alert the project team to issues, which may cause problems in the future.
3. Change requests. Change requests may occur in many forms—oral or written, direct or indirect, externally or internally initiated, and legally mandated or optional. Changes may require expanding the scope or may allow shrinking it. Most change requests are the result of:
    - An external event.
    - An error or omission in defining the scope of the product (for example, failing to include a required feature in the design of an ERP system).
    - An error or omission in defining the scope the project (e.g., new functional requirements).
    - A value-adding change.
4. Scope management plan.

Tools and Techniques for Scope Change Control

1. Lucas County should implement a Scope Change Control System. A scope change control system defines the procedures by which the project scope may be changed. It included paperwork, tracking systems, and approvals necessary for authorizing changes. The scope change control system should be integrated with the overall change control system, and in particular, with any system or systems in place to control product scope.
2. Lucas County should define performance measurement. Performance measurement techniques help assess the magnitude of any variations, which will occur during the ERP implementation project. An important part of scope change control is to determine what is causing the variance and to decide if the variance requires corrective action.
3. Additional Planning. Few projects run exactly according to plan. Prospective scope changes may require modifications to the project plan or analysis of alternative approaches.

Outputs from Scope Change Control

1. Scope changes. A scope change is any modification to the agreed-upon project scope as defined by the approved project plan. Scope changes often require adjustments to cost, time, quality, or other project objectives. Scope changes are fed back through the planning process, technical, and planning documents are updated as needed, and stakeholders are notified as appropriate.
2. Corrective action. Corrective action is anything done to bring expected future project performance into line with the project plan.
3. Lessons learned. The causes of variances, the reasoning behind the corrective action chosen, and other types of lessons learned from scope change control should be documented so this information becomes part of the historical database for both this project and other Lucas County projects.

Project Sponsor(s) and Steering Committee

As mentioned and detailed in the Project Team Roles and Responsibilities portion of this document on page 20, Acuent believes that it is critical for Lucas County to identify Project Sponsor(s) as part of the ERP system implementation. As it relates to scope management, the Sponsor role is very important. The Sponsor is the key player in making executive decisions as they relate to scope control.

The Project Sponsor does not have any day-to-day responsibility to the project. However, he or she must be able and willing to understand and communicate the goals and methods of the Project Team to the upper levels of Lucas County leadership. The Sponsor should be a County elected official who can and will promote the benefits of the project at high levels. The role of this person is to provide senior management support, remove roadblocks when necessary, and make decisions when issues cannot be resolved at lower levels. The project sponsor/champion also provides guidance and credibility to the ERP implementation project within Lucas County.

An additional role that affects project scope management is the role of the members of the Steering Committee. The role of these team members' is to develop a vision for the project's future, resolve issues that cannot be handled at lower levels, create a structure for change, and ensure adequate resources are available as staffing needs change.

Typically, when changes to scope are to be resolved, the roles of Project Sponsor and Steering Committee become vital to making final decisions and communicating its message to the appropriate individuals.

Responsibility Assignment Matrix

One of the functions of project management is to keep an accurate record of the people assigned to various portions of the project and to identify what their functions are. As a result, a responsibility assignment matrix can assist identifying these individuals. Used in conjunction with the Project Charter and Control Document, the Responsibility Assignment Matrix can give team members a complete picture of who is responsible for which aspects of the project.

The following table below, is an example of a Responsibility Assignment Matrix, that Lucas County can use during its implementation:

Responsibility Assignment Matrix						
Name	Role	Assignment	Due Date	Reports to	Completion	Comments

Scope Document Example

To assist Lucas County in its scope management plan, we provide an example of a scope management document. The example is in the Appendix of this document and begins on page 209.

Integration Plan

Overview

This section outlines our technical needs plan for Lucas County to implement its ERP system. The plan presented here is a result of extensive research within the Lucas County DP/IS department and Acuent's experience with other organizations undergoing ERP implementations. One of the goals of this section is to address the technical aspects and requirements of the County's ERP implementation. We also aimed to consider all of the aspects of Lucas County from a technical point of view and to point out key issues regarding the ERP systems that are available in today's marketplace. The requirements we identify here are estimates based on the ERP industry as a whole.

Our experience has led us to identify several key issues that Lucas County should consider when deciding on a new application and all of the hardware and software that may be required to implement such a system. Some of these items include:

- Thin-clients (preferably Web-based).
- Minimal (or no) customization.
- Consolidated reporting.
- An application that does not require an extensive amount of maintenance—upgrades, patches, etc.
- A layer of security within the application itself.
- A well designed architecture for hardware, software, and database.
- Scalability.
- Automated functionality.
- Maintaining industry standards.

ERP Systems—Technical Perspective

The process of determining which ERP system is right for Lucas County is not really a technical issue. However, Lucas County can exclude certain systems that are available today based on industry standards from a technical perspective. There are many aspects of an ERP system that are technical in nature including, but not limited to, query/reporting tools, two-tier versus three-tier architecture, and compatibility with current in-house systems.

The reporting tools that are available depend heavily on the vendor because each of the vendors tailor their systems to integrate with specific products and/or create their own tools. Reporting is an important aspect of every business. Therefore, Lucas County should carefully consider the reporting tools provided by each vendor when choosing the final product. Reporting tools that are too technical in nature will require DP/IS staff members to maintain, modify, and create new reports. We recommend that any reporting tool should allow typical end users to tailor reports to their needs, therefore reducing the burden on the DP/IS department. ERP vendors such as BANN, Great Plains, SAP, and JD Edwards use Seagate's Crystal Reports as their reporting tool. Crystal Reports is noted for its flexibility and customizable nature. With it, users can to create their own reports that pull information directly from the database, reducing the amount of time a DP/IS staff member may have to spend to deliver reports. Additional third party vendors that provide reporting tools include Cognos, Strategic Reporting Systems, Inc., and FRx® Software Corporation.

Implementing architecture that is scalable, efficient, and reliable should be one of Lucas County's highest priorities when designing its new ERP system. Without implementing a successful architecture, the entire system will suffer. Today, about 15% of all ERP implementations are installed on a processing platform adequately sized for the identified business needs. This means that the remaining 85% of all ERP implementations are constrained by the capacity of their hardware and/or network structures. Of course, this limits their productive returns to their businesses.

When ERP systems were first introduced, they relied on a two-tier architecture, otherwise known as client/server. In two-tier architecture, the database and each client machine communicated directly with one another. As applications began to become more robust, the client machines were also being upgraded to support these applications.

Three-tier architecture has since become the more prevalent solution by organizing distributed client-server systems in a more flexible manner. The three-tier approach allows an intermediate layer connecting the clients to the server. Within the ERP environment, this third tier is usually referred to as an application server. The clients communicate with the application server and only the application server communicates with the database server. The messages that are relayed between the client and application server are simplified, reducing the amount of processing that is taking place on the client machines. This is one of the major advantages of three-tier architecture because the responsibility of the processing is placed on the application server. With less software on the client, there is less security to worry about—applications are more scalable. In addition, support and installation costs are less on a single server than maintaining each on a desktop client. The application server design should be used when security, scalability, and cost are major considerations.

The combination of mainframe horsepower as a server in a client/server-distributed architecture results in a very effective and efficient system. Mainframe vendors now provide standard communications and programming interfaces that make it easy to integrate mainframes as servers in client/server architecture. Using mainframes as servers in a client/server-distributed architecture provides a more modular system design, and provides the benefits of the client/server technology.

Using mainframes as servers in client/server architecture also enables the distribution of workload between major data centers and provides disaster protection and recovery by backing up large volumes of data at disparate locations. The current model favors “thin” clients with very powerful servers that do most of the extensive application and data processing, such as in a two-tier architecture. In a three-tier client/server architecture, process management (business rule execution) could be off-loaded to another server.

While client/server systems are suited for rapid application deployment and distributed processing, mainframes are efficient at online transactional processing, mass storage, centralized software distribution, and data warehousing.

ERP Components

The hardware and software that Lucas County will need to purchase, install, and test before installing your ERP application depends on the particular ERP configuration that the County chooses. The components you need to consider include:

Client Workstations: Requires a computer, or client, for each employee in Lucas County that will use ERP applications. Modern ERP systems support one or more of the following user configurations:

- **Browser Access:** Applications take advantage of standard, compliant browsers that support HTML 4.0. Users start the browser software, type in a URL, and use HTTP through a Web server to send requests to the application server. Each workstation must have a currently supported browser.
- **Windows Client:** Windows-based clients—which run on Windows NT 4.0, Windows 95, Windows 98, and Windows 2000—can connect to the ERP database directly using client connectivity software (a two-tier connection), or through an ERP application server (a three-tier connection).

File Server: Lucas County will need a file server to maintain a master copy of the system programs used by ERP software. The specific configuration requirements are based on the requirements for all of the County's applications and network software.

Database Server: The database server houses the database engine and the ERP database, which includes all of the object definitions, system tables, application tables, and data. The database server must run one of the supported RDBMS/operating system combinations. It needs sufficient disk space to accommodate the operating system, one production and one test copy of the database, and all log files. This is in addition to any disk space required for training or development databases. Keep in mind—database sizes vary depending on the application's use. A good rule of thumb is to initially oversize your storage media rather than undersize it.

Batch Server: The batch server, or batch environment, is the location where many of the batch programs will run, such as overnight processes or process intensive programs. In short, Lucas County can either install the batch server on a separate server or run on either the application server or the database server.

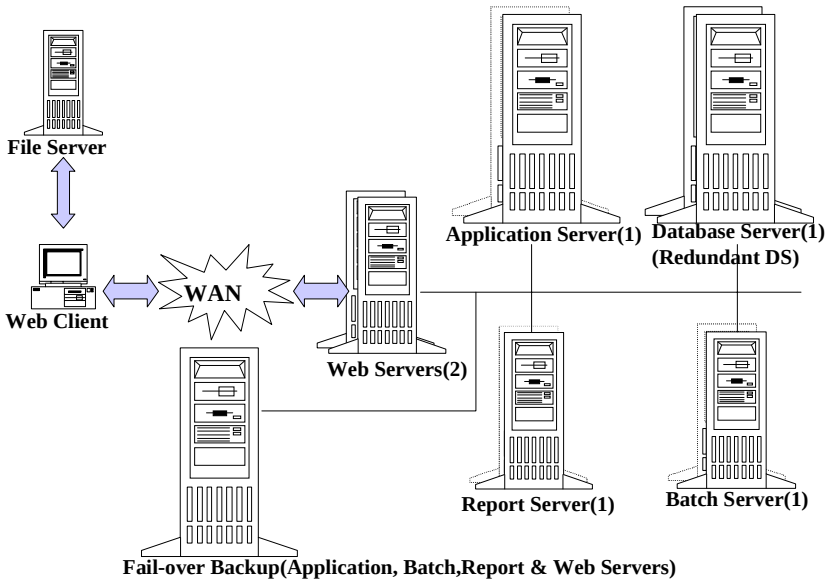
Report Server: Lucas County may select a report server to handle Crystal Reports and similar reporting programs. The report server requires Windows NT machines. The County can either install the batch server on a separate server or run it on either the application server or the database server.

Application Server: The application server is the core of the ERP architecture. It executes business logic and issues SQL requests to the database server. It is designed to permit communication between Browser access (via the Web server) and the database. The application server consists of numerous ERP services and server processes that handle transaction requests. The application server is responsible for maintaining the SQL connection to the database for the browser requests.

Web Server: A Web server is required for the Internet Client. It serves as the link between the Internet Client, to which it sends HTML via HTTP, and the application server.

Internet Architecture

A Web browser user cannot establish a two-tier connection to the database, but must connect via a Web server to the application server. The browser sends HTML via HTTP to the Web server. The Web server translates the HTML, then forwards the request to the application server. The application server interprets these messages and sends SQL to the database server. The following diagram illustrates an Internet architecture configuration:



Three-Tier (Client/Server)

In a three-tier environment (client/server), the Web server is removed from the architecture, client software is installed on the user's machine, and applications processing logic execute on the application server. Database requests are made by the application server to the database server.

Infrastructure (Hardware and Software)

Three separate sets of hardware support the following environments:

- Development and Testing Environments (These can be split in two if Lucas County chooses to)
- Production Environment
- Production Fail-over Environment, which will also host instances for Reporting, Training, Copy of Production, Staging

Lucas County should consider all storage requirements needs on an instance-by-instance basis. As a rule of thumb, Lucas County should multiply its estimate for storage space by at least a factor of three.

Database

The platform and RDBMS that Lucas County chooses will depend in part on the application that the County chooses to meet its functional needs. We recommend that the application that is chosen not rely on obsolete or rare platforms and/or databases, as support and reliability may become an issue. The platform will also depend on the RDBMS that Lucas County chooses and vice versa.

While there are many databases available in the marketplace today, about 80-85% of ERP customers use Oracle or SQL Server as their database. Selecting and implementing a product on a less prevalent system could have repercussions in coming years—the databases may become unsupported. For example, one vendor recently put Informix/NT and SQLBase on the unsupported list.

The table below compares the significant features of Oracle 8, SQL Server 7, and SQL Server 2000 environments. Ratings for the features are established based on Acuent's experience with the products.

Feature	Oracle 8.1.7	SQL Server 7	SQL Server 2000
Cost	5	9	8
Multimedia and advanced data type support	9	6	6
Management Tools collection	7	8	9
Ease of configuration and tuning	3	8	8
OLTP performance	9	7	8
DSS performance	8	6	6
Ease of administration	5	8	8
Cost of acquiring administration talent	2	8	7
Cost of underlying infrastructure	4	7	6
Stability (Maturity of core product)	8	9	7
Cost of vendor support	2	7	7
Quality of vendor support	8	7	7
Support newer technologies (Java, XML, etc)	9	6	7
Maturity of administration & support tools	5	7	8
High availability	8	6	8
Industry standard	9	8	6
Scalability	9	6	8
Distributed database support	9	4	8
Score	**52**	**58**	**60**

Some of the SQL Server 2000 features are not fully tested and proven due to relatively recent release date of the product.

Currently, Lucas County relies on a HP3000 mainframe system, housing multiple applications. Since the County plans to take a phased approach to its ERP implementation, we recommend that Lucas County acquire new hardware to house the ERP application suite. Based on our conversations with DP/IS department staff members, the status of the current mainframe in the future is unclear. This mainframe houses multiple smaller applications, and Lucas County would have to expend considerable effort to coordinate moving these applications off of the mainframe as modules of the ERP system go live. Lucas County may decide to keep the mainframe intact, using it as storage of their history files, rather than converting them. Lucas County needs to make this decision; once the implementation of an ERP module that incorporates some of these programs begins. In its decision making, Lucas County should rely on the information it receives from vendors participating in the Request for Proposal (RFP) for the ERP system. By selecting a vendor and using the information from the RFP, Lucas County will have the information necessary to make the decision on specific hardware to acquire.

In the ERP Vendor Comparison portion of this document (page 35), we outlined the platform requirements for ERP vendors, which include Servers, Databases, and Source language that is available.

Storage

One notable characteristic of an ERP database is the large number of tables, views, and indexes. In most databases, these items number several thousand. Organizations typically maintain several of these large databases during an implementation—six to ten 1 to 10Gb databases are not uncommon. Because the application is stored in the database, separate application versions require separate databases and often a separate set of executables. The implementation strategy can have a significant impact on the amount of storage needed. Therefore, the project plan should include defining these needs early in the implementation and reevaluating them as the implementation progresses.

A successful implementation will demonstrate a clear understanding of database administration issues such as:

- Appropriate database connectivity.
- Memory configuration that maximizes performance within hardware limitations.
- File layout that reduces I/O contention as much as is practical.
- Optimizer modes and their impact on performance.
- Query parallelism.
- General database administration and maintenance.

Points to Consider when selecting/sizing

- Multiple disk drives improve performance and recoverability.
- Sufficient disk space to accommodate RDBMS software and all requisite products.
- Operating system (patches and fixes).
- Room for an additional instance on the Host including logs and dumps files.
- Upgrades require additional copies.
- Database sizes vary depending on the application (modules) and transaction loads.
- Tape backup device with ample capacity and speed to back up entire disk space daily.
- Video controller and display.
- Appropriate network interface card and cabling to connect to network.
- Uninterrupted power supply (UPS) with sufficient capacity to allow an orderly shutdown of the database server and operating system in case of a power failure (optional, but recommended).
- A good rule of thumb is to initially oversize rather than undersize your storage media and to maximize the amount of RAM on your system.

For Lucas County to determine what its hardware requirements will be for the ERP system, it is first necessary to choose the application package, since space needed to store a single transaction varies from application to application. Once the County determines the ERP application, Lucas County, along with its implementation consultant, can conduct a sizing survey and determine an exact requirement.

As an estimate, Lucas County can double the current data storage requirements to determine the minimum amount of storage space that will be necessary for the new system. This is due to the multiple, multi-segmented indexes created against every table within various applications. These indexes give these applications their flexibility. We will begin by examining the current applications and their related data.

Based on the information provided by the DP/IS department, the current systems use about 17GB. This figure represents both the data and the applications stored within these systems.

Based on the information above, the following will provide a raw estimate of space requirements:

RDBMS	1GB
Financial Applications	2GB
HR/Payroll Application	1GB
Recorder Application:	7GB
Other Applications	7GB
Operating System	1GB
Compiler and other support software	1GB
Board of Elections	0.60GB
Board of Health*	0.04GB
Child Support*	2.30GB
Inventory	0.02GB
Real Estate	3.90GB
Special	0.04GB
Veterans Services	0.07GB
Treasury (budget)	0.04GB
Budget	0.80GB
Courts*	1.50GB
Dogtag	0.20GB
Domestic Relations Court	0.50GB
Estate Tax	0.03GB
Marriage License*	0.20GB
Mobile Home Tax	0.03GB
Personal Property Tax	0.20GB
Payroll	0.70GB
Recorder	6.30GB
Total	17.5 GB
Current HP3000 data requirement	35GB (17.5GB times 2)
Future data requirement	50GB
Estimated Space Requirement	84GB

Additional elements, such as keeping long-term archive logs or maintaining backups on disk will increase the storage needed significantly.

Operating Systems

The principal operating system environments that are used for ERP systems are Windows NT/2000 and UNIX. The following is a list of the key issues and comparisons of them in NT and UNIX environments:

	Windows NT	UNIX
Scalability	Limitation of maximum of 4 CPUs per box and diminishing return for additional CPUs.	Fully scalable with up to 64 CPUs per box without any sacrifice in CPU performance for multiple CPUs.
Acquisition Cost	Fraction of what a UNIX platform server costs. Large number of vendors and open platform support for add-on components.	Typically, much more expensive than a comparable Intel platform server. Limited vendor selection and limited support for add-on components. Inability to use parts/components for one brand on another.
Maintenance Cost	Minimal. Off-the-shelf support software with reasonable price.	Significant cost due to sensitive nature of the environment to outside anomalies such as power failures, etc. Costly support software.
Cost of Talent	Reasonable. Large number of available administrative talent. Typically, one person is sufficient to support the environment.	Expensive. Typically requires specialists with years of experience to provide reliable support to the environment. May require more than one person to support. $60-90K per year per person.
Stability	Typically stable with regular frequent system recycling. Windows NT based PeopleSoft environment should be recycled weekly. Process failures can crash the operating system easily.	Very stable. System can go months without ever needing to recycle. Typically choice for 24/7 operating environment. Process failures are very unlike to crash the operating system.
Performance	Reasonable to good performance with multiple high-end Pentium III CPUs. CPUs tend to get fully utilized very easily.	Good to excellent performance, depending of the design and the investment. Workhorse. Handles load very well.

	Windows NT	UNIX
Vendor Support	Relatively inexpensive vendor support. Typically, to direct vendor support is necessary. Low cost per incident or incident pack support.	Potentially very expensive vendor contracts. Necessity of reaching out for vendor support due to limited support of non-contract based users.
Future Direction	Potential to take over all non-24/7 environments. Even more when 64-bit operating system released.	Losing ground to Windows in small to medium shops. Still the only choice for 24/7 high volume operations.

Database and Application Server

The heart of the ERP system is the database server. Therefore, Lucas County should take extreme care with initial sizing. We also recommend the following guidelines to assist in the configuration of the production server:

- A minimum of 2 processors, expandable to a minimum of 4.
- A minimum of 1GB RAM, expandable to a minimum of 2GB.

A database or application server that does not meet these minimum requirements will suffer in performance. We have established these minimum requirements based on our knowledge of current vendor requirements. Also, we stress that implementing a solution on a server without taking into account future resource needs can be a costly decision when trying to expand memory and/or increasing processor speed. Therefore, we suggest that the database and application servers be easily expandable.

For a stable environment, we recommend the use of at least three instances of the database environment. The three instances will be used for development, testing (or quality assurance), and production. We also believe that the safest method is to allow the production environment to reside on a dedicated server.

An important factor in selecting the database server is the available redundancy options. Depending on the sensitivity of Lucas County's environment and acceptability of down time, the County may implement various levels of redundancy at an increasing cost. Please keep in mind that not all redundancy options are available from all vendors and related costs may vary significantly.

The logic behind redundancy is elimination of any one component as a single point of failure. Over 95% of the time, the point of failure is a hard drive. Therefore, establishing storage redundancy has primary importance over other forms.

The most basic form of redundancy is a RAID1 configuration. RAID1 stands for full disk mirroring. Although this is a simple environment to maintain, the amount of storage required doubles, resulting in a more costly alternative.

The most popular alternative of storage redundancy is a RAID5 structure. RAID5 would provide a reasonable level of redundancy and eliminate the need of doubling the storage array for redundancy.

Please refer to the chart below for an overview of the most popular configurations.

Disk Configuration	RAID 0 Striping	RAID 1 Mirroring	RAID 0 + 1 Striped and Mirrored	RAID 5 – Striped and Interleaved Parity
Acquisition Cost	Low	High	High	Moderate
Operational Cost	Low	Low-Moderate	Low	Low
Random Read Performance	Excellent	Good	Excellent	Excellent
Random Write Performance	Excellent	Good	Excellent	Poor
Sequential Read Performance	Excellent	Fair	Excellent	Excellent
Sequential Write Performance	Excellent	Fair	Excellent	Excellent
Concurrency Impact	Excellent	Excellent	Excellent	Poor
Outage Frequency	High	Low	Low	Moderate
Outage Duration	High	Low	Low	Moderate
Outage Performance	Poor	Excellent	Excellent	Fair

Selecting multiple smaller disks over a single large disk is usually a better choice for performance, although it may increase the cost. It is better to use 4GB drives as opposed to a single 9GB drive. The only exception to this rule is the RAID 5 configuration, because parity is used to record information necessary to rebuild each drive in case of a drive failure and I/O is increased for each additional drive.

Another important factor for the database server is the number of processors. There is a fundamental difference in the use of single as opposed to multiple processors. Multiple processor utilization will allow you to use additional functionality like multi-threaded servers and parallel processing, which will support multiple database connections with reduced operating system processes to support many connections.

Another type of redundancy is the duplication of the database server itself. There are two main ways that database servers can be implemented in a redundant fashion—Cluster and Replication.

Under a Cluster configuration, a minimum of two servers is needed, and a maximum of four servers can be used. When a cluster is set up, the two (or more) servers have a dedicated network that they talk to each other on to let each other know which machine is running and which is not. The servers also share a storage device called a SAN (Storage Area Network). This storage device is where all of the data is stored. If one of the servers fails, the secondary server takes over control of the SAN and continues completing user requests.

Under the Replication configuration, a minimum of two servers is needed, and the maximum varies from 16 to 24 (some setups can support even more). Both of the machines can use the same SAN, but each machine would have its own portion of storage space (it would not share the same as a cluster would). Alternately, each machine could have its own SAN or other external storage. The SAN or external storage is not necessary, but allows quick and easy replacement of a server in the event it fails completely.

Clients

Acuent believe that Lucas County should focus on Web-based clients. Lucas County should put any ERP solution provider that does not support a Web-based client at the bottom of its preference list. With the diverse client PC population, both in terms of hardware and software, the most advantageous solution will be a Web-based client. We recommend the following as a minimum configuration for Client PCs:

Hardware Recommendations for Web Based Solution

Pentium 166Mhz CPU
32MB RAM (at a minimum, prefer 64MB)
2GB HDD
SVGA Display capable of supporting 800X600 resolution

Software Requirements

Internet Explorer 5.0 or Netscape Communicator 4.x

In addition to the recommendations above, we recommend that if Lucas County selects a Web-based client solution, each client machine should be able to connect at a rate of no less that 56Kbps. Although 56Kbps is the minimum connection rate, we recommend higher speeds, if possible.

Lucas County has multiple sites that will access the ERP system. These sites are connected by a variety of different connections. If the County chooses a vendor that uses Web-based technology to access their system, Lucas County should ensure that the outlying sites have the appropriate Internet or Intranet access to support their connections.

Lucas County has indicated in their Capital Improvement Plan for Disaster Planning and Data Recovery, a request to upgrade the entire downtown network campus backbone equipment from 100Mbos FDDI protocol to the newest (when available) 10 Gbps Ethernet protocol technology using state-of-the-art, industry standard Cisco equipment. If implemented, Lucas County should not have to meet any additional requirements relating to connectivity.

While the thin-client configuration is less demanding in processing power requirements, it is still beneficial to use a faster machine with a reasonable amount of memory to achieve a better level of performance. Although the recommendations above are general, it is unlikely that computers with such low processing power would be found on the market. Keeping this in mind, Lucas County, for the most part, has more than adequate client configurations. There should be no additional costs for meeting the above requirements.

Memory

There are many variables and complex formulas to determine the optimum amount of memory that Lucas County should use in its servers. These formulas take into account items such as database block size, the number of connections to the server, and the number and types of applications that will be running on a particular machine. The minimum memory requirements for a typical database and/or application server is 1GB, with 2 GB being preferred. If there is going to be significant Web access, 2GB or more will be necessary, depending on the locations of the Web server software.

High Availability and Disaster Recovery

It is an inescapable fact that computer systems fail. Anticipating and preparing for a failure is an important part of a successful ERP implementation at Lucas County. Any disaster recovery plan begins with well-documented business requirements. Financial or operational decisions should be made based on these requirements.

A high availability plan should include factors such as server redundancy, storage configuration, client configuration, and staffing plans. Any effective disaster recovery plan should also be practiced regularly—a "fire drill" that covers different aspects of a projected failure.

The backup process at the Lucas County facility is mostly localized, each server tends to perform its own backups. For the implementation of its ERP system, we recommend that Lucas County perform a complete backup solution. To accomplish this, we provided an example backup server configuration (below). Configuration takes into account backup hardware availability for the level of system.

The need for a complete backup solution is justified by the massive amounts of data that will need to be protected from disaster. The application servers will likely need weekly full backups, with incremental backups every night. However, the database servers will need backed up fully every night, and transactions backed up every five minutes during 7-6, scaling back to once every half-hour until midnight.

This server should be located at a facility separate from the main database and application servers if a 100-megabit data connection is available (or preferably a gigabit connection) at a secure accessible facility. An example of a backup system would be as follows:

Hardware

(Example systems: Dell 6450)

- Pentium III 700MHz
- 512 MB RAM
- PERC3/QC-Quad Channel RAID Card (2 Internal Channels/2 External Channels)
- Split backplane Hard Drive configuration (Drive 1-2 mirrored, Drives 3-5 Striped)
- 2 18 Gig system Hard drives
- 3 73 Gig data Hard drives
- External 35/70GB DLT-7000 Autoloader Rack Mount.
- Dual Gigabit NICs
- DVD-ROM

Services and Software

- Windows 2000 Server
- Veritas SAN Backup Software
- Software installation service
- 3-Year Same Day 4-Hour Response Parts. 24/7-OnSite Labor.

Technical Staffing

The application and expertise of the staff will determine the number of people that Lucas County will need for both the ERP implementation and its ongoing support. Considerable resources within the County are very knowledgeable of the current processing and technical needs. More often than not IT departments lack the internal resources that are required to implement and support such a project. If the resources that are available within the County are very knowledgeable about both the technical and functional needs of the users, this will be very beneficial to the successful implementation of the enterprise solution.

We recommend that at least one Database Administrator (DBA) in the chosen RDBMS will be required to give all of their attention to the implementation of the new application. This person should also be familiar with the platform that Lucas County selects. A system administrator dedicated to the chosen platform would be very beneficial; however, the DBA may fulfill both of these requirements.

We recommend that Lucas County hire an ERP consulting firm to assist in the initial implementation. Doing so will be the most efficient and effective method of achieving the results that the County desires. As important as implementation services, the consulting firm should offer internal training services during the implementation process. Clients that do not have internal resources dedicated to the project are not able to provide the onsite support that is needed to maintain day-to-day operations. Any consulting firm should be willing to provide knowledge transfer throughout the entire implementation and Lucas County should be willing and able to receive that knowledge.

Summary

We at Acuent believe that the best overall configuration for Lucas County will be achieved using an n-tier architecture that supports a Web-enabled solution. Further, we believe that this question cannot be answered without some additional information from the various vendors that provide ERP solutions. As such, we have added additional questions to the RFP that Lucas County should present to each vendor that the County considers (page 69).

Time Management Plan

Summary

This document summarizes our recommendations for a time management plan to enhance Lucas County's ERP implementation. Based on interviews with numerous members of Lucas County's leadership and subject matter experts, the County wishes to implement an ERP system using a phased approach. Using a phased approach allows Lucas County to implement portions of a new ERP system gradually, rather than attempting to implement all of the ERP modules at once.

Our experience has shown that a phased approach is preferable in ERP implementations. In the Comparative Analysis section of this document (see page 17), we validated Lucas County's desire to take a phased approach with industry experts. In addition, almost all of the representatives from comparable government organizations who we talked to preferred a phased approach to their ERP implementations. In the Comparative Analysis section, we also discuss the pros and cons of taking the phased approach.

Through our conversations with Lucas County team members we have identified four distinct phases of implementation. The following list outlines the phases of implementation that Lucas County desires along with the ERP modules they wish to implement:

Implementation Phase I—HR, Payroll, Benefits, and General Ledger

Implementation Phase II—General Ledger, Budgeting, Purchasing, Accounts Payable, and Accounts Receivables

Implementation Phase III—Fixed Assets and Tax Accounting

Implementation Phase IV—Data Warehousing and GIS Integration

Furthermore, Lucas County wishes to implement each phase gradually, so that the current staff is not overused. Doing so will allow Lucas County to implement its ERP system in a slow, gradual, and controlled manner. As a result, the timelines that are identified in this summary reflect the wishes and desires of Lucas County.

Along with the information in this document, we provided a thorough project plan for Lucas County's ERP implementation. The plan is published in a separate Microsoft Project file, titled "**LC ERP Implementation Project Plan.mpp**."

Recommendations

In addition to identifying the timeline for implementation, we recommend that Lucas County employ the services of an implementation partner. We also recommend that Lucas County consider the staffing requirements on the next page for each phase of its implementation:

Consulting Services	Lucas County Staffing
Implementation Phase I	
1 full-time Project Manager	1 Project Manager
1 full-time HR Lead Consultant	1 HR Team Lead
1 full-time Financial Lead Consultant	1 Financial Team Lead/GL
2 full-time HR/Payroll Consultants	1 Payroll Representative
2 full-time Technical Consultants	1 Benefits Representative
1 Change Management Consultant	2 Programmers
	1 Web Developer
	1 Technical Lead/DBA
	1 Change Management Specialist
Implementation Phase II	
1 full-time Project Manager	1 Project Manager
1 full-time Financial Lead Consultant	1 Financial Team Lead
2 full-time Financial Consultants	1 GL Representative
2 full-time Technical Consultants	1 AP Representative
	1 Budget Representative
	1 AR Representative
	1 Purchasing Representative
	1 Technical Lead/DBA
	2 Programmers
	1 Web Developer
	1 Change Management Specialist
Implementation Phase III	
1 full-time Technical Consultant	1 Project Manager
	1-2 Fixed Assets Representatives
	1-2 Tax Accounting Representatives
	1 Technical Lead/DBA
	1-2 Programmers
	1 Web Developer
	1 Change Management Specialist
Implementation Phase IV	
1 full-time Technical Consultant	1 Project Manager
	1-2 Data Warehousing/Mining Representatives
	1-2 GIS Representatives
	1 Technical Lead/DBA
	1-2 Programmers
	1 Web Developer
	1 Change Management Specialist

For details about the roles and responsibilities of the Lucas County Project Team members, refer to page 20.

As a part of the Time Management Plan, we have provided a high-level project plan, beginning on page 277 that Lucas County should use as a template for its ERP implementation. The County's ERP Project Team should use the plan as a guide to identify appropriate phases and resource requirements. As Lucas County begins its implementation, the Project Team will need to identify additional task and resource assignments. This identification is typically performed in the planning portion of each phase.

Each phase of the project plan is outlined below. This outline represents the methodology that we recommend for ERP implementations. Acuent strongly suggests that Lucas County follow a methodology equivalent to this, calling for specific deliverables within each distinctive phase of the project. The project lifecycle is broken into four distinct phases: Planning and Analysis, Design and Development, Testing and Training, and Deployment.

Project Outline

Phase I—Planning and Analysis

This phase establishes the foundation for the ERP implementation, identifying the project scope, timing, resources, strategies, and business requirements to be met by the system. Analysis considers existing and proposed business processes and the capabilities of the software to meet requirements in order to identify project activities and proposed modifications to the delivered application.

Objectives

- Scope Definition
- Requirements Definition
- Functional Gap Analysis
- Infrastructure Analysis
- Project Planning
- Communicate Implementation Strategies:
  - Project Controls
  - Data Conversion
  - Backup / Recovery
  - Prototype Definition
  - Testing
  - Documentation
  - Training
  - Contingency

Deliverables

- Project Charter and Control Document
  - Project Charter
  - Project and Client Team Structure
  - Issue Tracking Defined
  - Change Control Defined
  - Strategies Defined
  - Infrastructure Defined
- Scope Document
- Detailed Project Plan
- Requirements Definition:
  - Business Process Document
  - Infrastructure Analysis
  - Gap Analysis
  - Other Requirements
    - Reporting
    - Interface
    - Conversion
    - Customization

Phase II—Design and Development

This phase encompasses the installation and development of all of the software components—from the creation of detailed design specifications to programming and unit testing of all required system capabilities.

Objectives

- Infrastructure Deployment
- Define and Setup Application Parameters
- Data Conversion Mapping & Development
- Interface Specifications & Development
- Report Specifications & Development
- Customized Features Specifications & Development
- Security Specifications & Development
- Prototyping to Ensure Fit
- Unit Test
  - Validate Setup of Application Parameters
  - Validate Data Conversion
  - Validate Interfaces
  - Validate Reports
  - Validate Customized Features
  - Validate Security

Deliverables

- Design Document:
  - Setup / Design Decisions
  - Conversion Specifications
  - Interface Specifications
  - Report Specifications
  - Customization Specifications
  - Batch Processing Specifications
  - Security Specifications
- Fully-Developed Application
  - Conversion Programs
  - Interface Programs
  - Reports Written
  - Customized Features
  - Batch Programs
- Test Plan

Phase III—Testing and Training

This phase confirms the adequacy of the developed system to meet the requirements identified during the Planning and Analysis phase and its readiness for production through the execution of systems testing. Additionally, system documentation is updated and user training executed in preparation for final migration into production.

Three types of testing will occur in this phase:

1. Integration testing
2. Performance/Infrastructure testing
3. User Acceptance testing

Integration testing occurs between the applications, as well as with third party interfaces. Performance/Infrastructure testing includes volume and system throughput testing, and testing of disaster/recovery procedures. User Acceptance testing ensures user approval in a "simulated live" process.

In addition to testing, end user training will be developed and conducted during this phase.

Objectives

- Training
  - Develop Training Facilities
  - Prepare Training Environment
  - Develop Training Documentation
  - Conduct Training
- System Test
  - Develop Test Scripts
  - Volume Testing
  - Integration Testing
  - Acceptance Testing
- Compile Application Documentation
- Develop Deployment Plan

Deliverables

- Training Plan
- Test Documentation
  - Test Scripts
  - Updated Test Results
- System Documentation
- Deployment Plan

Phase IV—Deployment

Following the confirmation of test results, this final phase commences with production authorization and the execution of the system deployment plan. This plan outlines the communications, actions, and timing associated with the production system rollout, data conversion, and initial production processing and support. Before the close of the project, system documentation is updated to include production and support procedures and recommendations for future systems enhancements.

Objectives

- Production Rollout:
  - Prepare Production Environment
  - Obtain Production Approvals
- Final Data Conversion:
  - Extract Source Data
  - Execute Conversion Programs
  - Audit Results
- Finalize Deployment Plan
- Initial Production Support
- Post Implementation Review

Deliverables

- Finalized Deployment Plan
- Production Ready System
- Future Recommendations:
  - Future "Phases"
  - Training Recommendations

Quality Management Plan

Overview

This section defines our recommendations for a Quality Management Plan for Lucas County to use during its ERP implementation project. Quality management includes the processes required to ensure that Lucas County's ERP implementation project will satisfy the needs for which it was undertaken. It includes all activities of the overall management function that determine the quality policy, objectives, and responsibilities. It also implements the activities through quality planning, quality control, quality assurance, and quality improvement. It is critical that Lucas County implements a detailed Quality Management Plan when implementing its ERP system.

System Testing Plan

Lucas County's Project Team will write and test conversion programs that they will use to populate the test environment. These conversion programs will also be used to populate the User Acceptance Test environment.

The objective of a system test is to start at a high-level trying to break the system, and end up at a point where there is a high confidence in system reliability and data integrity. One of the main functions of the system test is to ensure that all modules are present and functioning in concert. The integrity of inbound and outbound interfaces and processes must also be assured.

The purpose of the System Test Plan is to:

- Create a plan that provides an orderly method for testing the accuracy and completeness of all application processes.
- Identify all processes for which test cases need to be developed.
- Communicate the testing methods and procedures to be employed including assumptions, approach, roles and responsibilities of participants.
- Provide the Project Team with a working document to assist in managing the System Test process.

Subject matter experts from each functional area of application within Lucas County (HR, Payroll, Finance, etc.) will define scenarios that will be executed by the Project Team, with assistance from representatives from each respective functional area. Scenarios will test the system from end to end or from input to output, including the interaction between functional applications and/or processes. Each component of the system will be tested thoroughly and any program and/or procedural problems will be identified as either a "showstopper" or a "non-showstopper." Actual outputs will be verified by comparing previously prepared expected results as documented on each test scenario. Scenario results will be reviewed primarily at a transaction and individual employee level.

The objectives for the System Test are:

- User participation throughout the System Test, including users who are not on the Project Team.
- Project Team satisfaction with system functionality.
- Identification of areas where the system does not meet Lucas County's business needs.
- Identification of areas of the system or its outputs that do not comply with government regulations.
- Identification of non-showstopper incidents, errors, or omissions.
- Execution of the System Test Plan in its entirety, as documented within this plan document.

Measurement of the test criteria will be achieved by comparing actual outcomes from each scenario to documented expected results from each test scenario worksheet.

The process of developing this test plan includes certain assumptions and prerequisites. To ensure successful and timely completion of testing activities, it is important that Lucas County ensure that these assumptions are valid and that prerequisites have been met prior to the initiation of the System Test. Assumptions and prerequisites are:

- The LAN is in place and has been stabilized.
- Access to the System Test Database is available to all participants and is ready for system testing. This implies that all data and data relationships are available and converted (all General Ledger, Benefits, and Payroll process tables are available).
- Data integrity testing is completed as part of the system test. (System Test Users are not responsible for data integrity testing, but should notify the Test Coordinator if data or data relationships do not appear to be correct.)
- Outputs from the ERP system and related interfaces are available and have been successfully unit tested.
- System Test participants know how to use the new software system, and are familiar with user procedures.
- System Test participants are available throughout the System Test to execute their respective scenarios based on the System Test Schedule.
- Project Team members assigned to testing will be responsible for developing test scenarios. The Project Team members will assist the functional users in their review and analysis of scenario outcomes and expected results.
- A Test Coordinator will be designated to provide guidance and ensure all testing is completed on schedule.

System Test Approach

System Testing is a controlled process that requires careful planning and execution.

Database environments will be established and batch processes will be executed by Lucas County's technical staff as appropriate to support the System Test. Online sessions will be coordinated between the various functional users and the technical staff to execute test scenarios in a Life Cycle approach. Appropriate outputs (reports, on-line displays, etc.) will be distributed to the testers for review of actual results as compared to expected outcomes. Incidents, issues, and/or omissions will be evaluated by Lucas County's System Test Team to determine if a showstopper exists.

Showstoppers will require the System Test to stop. The incident, issue, or omission must be resolved to the satisfaction of the Lucas County ERP Project Team before continuing the System Test. Depending on the severity of the showstopper, the System Test may need to be re-executed in its entirety. Non-showstoppers will be logged for resolution and subsequent re-test after the initial System Test phase.

For example, a System Test process for HRMS would consist of three phases:

- **Phase 1**: Separate testing of two BAS Groups (one group for HR/Benefits, the other for Payroll).
- **Phase 2**: Integrated testing of the two BAS Groups.
- **Phase 3**: Confirmation of resolution of non-show stopper issues.

Phase 1 testing will consist of scenario execution by the separate functional groups, and will concentrate on the verification that all processes are working correctly. Phase 2 testing will be considered the primary System Test and will include life cycle scenarios that generally begin with a HR action and end with a payroll calculation. Phase 3 testing is intended as a confirmation to the Project Team that the resolution of issues identified in the first two phases is acceptable.

Testing for Phases 2 and 3 will be organized by "cycles" as a method of control. A testing cycle represents a pay run from employee actions through a pay confirmation and the generation of outputs from related interfaces.

As necessary, database backups will be taken at critical points by technical team members during the test to allow for rollback and re-testing of test cases under the original test conditions. The Test Coordinator for Lucas County will be responsible for notifying the county's Core Project Team technical staff of the need for these backups.

Several special test forms and tools will be used to facilitate the System Test process and to ensure uniformity and completeness:

- Scenario Worksheet and Scenario Log: Used to document and track scenario execution.
- Scenario Incident Report Form: Used for problem identification and resolution.
- Job Checklist: Used by the designated "Production Control Operator" to identify the batch jobs to be run during each cycle of testing.

Documenting Test Scenario Matrix

One of the key activities in developing the System Testing environment is the development of a comprehensive matrix of System Test Scenarios for the ERP modules being implemented. The list should include all functions to be tested, including areas of special concern. The following four pages illustrate examples of a test scenario:

NEW HIRE/REHIRE TERMED OR CURRENT EMPLOYEE TEST SCRIPT					
System: HRMS	**Module:** *Open Enrollment*		**Prepared By:** xxx		**Date:**
Process: Reviewing and Entering Personal Information			**Approved By:**		**Date:**
Objective: Test Web Enrollment Functionality					
Assumptions: Select single Employee from Election Data Sets for testing purposes					
Task	**Step**	**Step Description**	**Data Set**	**Expected Results**	**Actual Results**
Navigate to Open Enrollment Function	1	In browser address line type in URL	Http://xxx.xxx	Sign On page appears	
	2	Enter user name, password and click "Sign On"	Employee ID from data set, password N/A	HR menu displays	
	3	Click "Open Enrollment" in Navigation Menu			
	4	Click "Go to Wizard"		"Your Personal Information" page displays	
PERSONAL INFORMATION	1	Review personal data for single employee	Employee from Election Data Set		
	2	Click "edit personal information"		"Your Personal Information" page displays with edit boxes open.	
Update Name	1	Click in first name text box, delete name and click "Continue"		Dialog box ="first name cannot be blank"	
	2	Click OK, re-enter first name and tab out	Use correct first name	First name displays in text box	
	3	Click "Continue"		No alert message. "Your Personal Information" page displays. (***Note:*** A dialog box may appear is other required information has not been completed)	
	4	Click "edit personal information" button		"Your Personal Information" page displays with information entered	
	5	Click "Edit Personal Information"		"Your Personal Information" page displays with all information edit boxes open	
	6	Click in last name text box, delete name then click "Continue"		Dialog box = "last name cannot be blank"	
	7	Click OK, re-enter last name	Use correct last name	Last name displays (as entered) in text box.	
Update SSN	1	Highlight SSN field, enter new SSN and click "continue"	123456	SSN cannot be highlighted and changed	
Update Date of Birth	1	Select month from drop down list	April	Drop down list for days displays 30 days	

NEW HIRE/REHIRE TERMED OR CURRENT EMPLOYEE TEST SCRIPT					
System: HRMS	**Module:** *Open Enrollment*		**Prepared By:** xxx		**Date:**
Process: Reviewing and Entering Personal Information			**Approved By:**		**Date:**
Objective: Test Web Enrollment Functionality					
Assumptions: Select single Employee from Election Data Sets for testing purposes					
Task	**Step**	**Step Description**	**Data Set**	**Expected Results**	**Actual Results**
	2	Select new month	October	Days drop down list displays 31 days	
	3	Select new month and year	February 2000	Days drop down list displays 29 days	
	4	Select new month and year	February 1999	Days drop down list displays 28 days.	
	5	Enter 22 in days field		February 3 displays	
	6	Enter birth date and tab out	Use correct date of birth	Birth date displays	
Update Gender	1	Click in radio buttons for Male and Female		Highlighted radio buttons changes as each selection is made.	
	2	Select gender	Use correct gender	Radio button for current data highlighted	
Update marital status	1	Click in radio buttons for all marital statuses		Highlighted radio buttons changes as each selection is made.	
	2	Re-highlight original radio button	Use correct marital status	Radio button for current data highlighted	
Update Home Address	1	Click in Address 1 text box, highlight and delete. Click “Continue”		Dialog box = "Please enter your address"	
	2	Click OK, re-enter Address 1	Use correct address 1	Displays exactly as entered (even if not capitalized)	
	3	Click in Address 2 text box, highlight and delete. Click “continue”		“Your Personal Information” page displays or dialog box if other required information is missing.	
	4	Click “edit personal information”		“Your Personal Information” page displays with edit boxes.	
	5	Click in City, highlight and delete. Click “Continue”		Dialog box = “Please enter city”	
	6	Click OK, enter city and tab out	Use correct city	City appears as formatted	
	7	Highlight state text box and enter first letter of state	M	Displays Massachusetts	
	8	Re-enter letter	M	Displays Maryland	

NEW HIRE/REHIRE TERMED OR CURRENT EMPLOYEE TEST SCRIPT					
System: HRMS	**Module:** *Open Enrollment*		**Prepared By:** xxx		**Date:**
Process: Reviewing and Entering Personal Information			**Approved By:**		**Date:**
Objective: Test Web Enrollment Functionality					
Assumptions: Select single Employee from Election Data Sets for testing purposes					
Task	**Step**	**Step Description**	**Data Set**	**Expected Results**	**Actual Results**
	9	Use down arrow key on keypad to display state and tab	Missouri	Displays Missouri	
	10	Use the down arrow in text box to select and highlight correct state	see data set	Click down arrow key displays all states. Can scroll up and down to display correct state.	
	11	Highlight postal code text box, delete and click “continue”		Dialog box = “Please enter zip code”	
	12	Click OK, enter postal code and click “continue”	aaaaa	Dialog box = “Valid zip code is 5 digits”	
	13	Click OK, re-enter postal code and click “continue”	123	Dialog box = “Valid zip code is 5 digits”	
	14	Click OK, re-enter postal code and click “continue	1235-1234	Dialog box = “Valid zip code is 5 digits”	
	15	Click OK, re-enter postal code and tab out	see data set	Displays as “nnnnn” Cursor moves to Home Phone	
Update Access Information	1a	Enter Home Area code and click “continue” (delete if filled)	Aaa	Dialog box = “Invalid telephone number”	
	1b	Click OK and re-enter area code	1234	123 displays. Only 3 numbers can be entered.	
	1c	Click OK, re-enter area code and tab out		Data displays and cursor moves to Phone number field	
	1d	Enter Home telephone number and click “continue”	aaaa	Dialog box = “Invalid telephone number”	
	1e	Click OK, re-enter telephone number, click continue	1231231234	12312312 displays	
	1f	Click OK, re-enter telephone number	123 123	Dialog box = “Invalid telephone number”	
	1g	Click OK, re-enter Home telephone number and tab out	See data set (use dash)	Displays “nnn-nnnn”	
	2a	Enter Work Area code and click “continue”	Aaa	Dialog box = “Invalid telephone number”	
	2b	Click OK and re-enter area code	1234	123 displays. Only 3 numbers can be entered	

NEW HIRE/REHIRE TERMED OR CURRENT EMPLOYEE TEST SCRIPT					
System: HRMS	**Module:** *Open Enrollment*			**Prepared By:** xxx	**Date:**
Process: Reviewing and Entering Personal Information				**Approved By:**	**Date:**
Objective: Test Web Enrollment Functionality					
Assumptions: Select single Employee from Election Data Sets for testing purposes					
Task	**Step**	**Step Description**	**Data Set**	**Expected Results**	**Actual Results**
	2c	Click OK, re-enter area code and tab out		Data displays and cursor moves to Phone number field	
	2d	Enter Work telephone number and click "continue"	aaaa	Dialog box = "Invalid telephone number"	
	2e	Click OK, re-enter telephone number	1231231234	12312312 displays	
	2f	Click OK, re-enter telephone number	123 123	Dialog box = "Invalid telephone number"	
	2g	Click OK, re-enter Work telephone number and tab out	See data set (use dash)	Displays "nnn-nnnn"	
	3a	Click into email text box, enter email address and click "continue" (delete if filled)	tomjones	Dialog box ="Enter valid email address"	
	3b	Click OK, re-enter email address and click "continue"	Tomejones@	Dialog box ="Enter valid email address"	
	3c	Click OK, re-enter email address and click "continue"	Tomjones@aol	Dialog box ="Enter valid email address"	
	3d	Click OK, re-enter email address and click "continue"	tomjones@ aol.com	"Your Personal Information" page displays	
	3e	Click "continue"		"Your Dependents/Beneficiaries" page displays	

When a test scenario is completed satisfactorily, the item will be signed off by the user on the scenario worksheet and recorded on the scenario log maintained by the Test Coordinator. To expedite testing, multiple items on the checklist may be identified on a single Test Scenario Worksheet.

Testing Steps

As we stated above, testing will be organized by "cycles" as a method of control. To assist Lucas County in developing its testing plan, we provide the following outline. The cycle of testing generally consists of the following steps:

1. Organize participants and scenarios for current test cycle.
   - Identify scenarios to be tested in current test cycle.
   - Schedule users for testing.
   - Communicate testing dependencies to all participants.
   - Participants review test scenarios and coordinate "hand-off" points between functional areas.

2. Process batch jobs as required (Event Maintenance, Paysheets, etc.).
   - Complete run controls
   - Prepare Job Checklist
   - Submit Job Checklist to Test Coordinator
   - Run batch jobs as appropriate

3. Complete online data entry.
   - Complete test scenario according to appropriate ERP User Procedure and document on scenario worksheet.
   - Communicate status to User and Test Coordinator, as appropriate.
   - Take panel prints and/or retain sufficient documentation for subsequent comparison of actual results to expected results.

4. Review output data.
   - Compare actual results with expected results
   - Record test results on Scenario Worksheet.
   - If test results are unacceptable, determine (in conjunction with User/Test Coordinator) if the test incident is a showstopper. Complete a Scenario Incident Report Form and forward to the Lucas County Test Coordinator after the top section has been completed.
   - The Test Coordinator will insure that the Problem/Issue is logged and on the System Test Problem Log.

5. Resolve problems.
   - Lucas County's Test Coordinator will review scenario documentation and, if a Test Incident is included, will meet with users and other appropriate Project Team members to determine how the issue is to be resolved. If the problem is identified as a showstopper, the System Test will be stopped until satisfactory resolution is reached. If the problem is not a showstopper, it will be scheduled for re-test in phase 3 of the System Test.
   - Lucas County's Test Coordinator will follow-up with the appropriate team member to assure that the agreed upon resolution is forthcoming and timely.
     - After a problem is corrected, one of the following will occur:
       - **Showstopper**: Determine if System Testing can resume from the point stopped or whether the entire System Testing effort must be reinitiated from the beginning.
       - **Non-showstopper**: Schedule re-tests during phase 3 of the System Test.
     - Repeat steps 2 through 5, as required
     - When satisfactory results are achieved, return documentation to Lucas County Test Coordinator.
     - Lucas County's Test Coordinator will close item on the Log after it has been successfully re-tested.

System testing roles

Lucas County users and Project Team members must be available to complete or assist with testing. The roles of the participants in the overall System Test are defined below. The responsibilities of each person may be combined to accommodate limited staff resources.

Test Coordinator

Responsibilities: Manage all functions of the testing process. Monitor the quality and timeliness of the overall testing effort. Oversees and facilitates all aspects of the System Test process including:

- Monitoring, recording, and reporting on test progress
- Acting as a facilitator to achieve optimum use of each team member's time and maintaining momentum throughout all stages of testing
- Ensuring that all necessary preliminary tasks are completed before a succeeding task is started
- Providing follow-through for any program corrections to be made, testing data to be entered, performing reruns, etc.

Functional Analysts (Project Team)

Responsibilities:

- Develops System Test scenarios that are integrated between modules to simulate Life Cycle transactions.
- Assists non-project team users with the execution and analysis of results

End Users

Responsibilities:

- Reviews scenarios before the initiation of the System Test and provides feedback required to be incorporated into final scenarios.
- Executes test scenarios according to the System Test schedule.
- Evaluates scenario outcomes against expected results.
- Documents and logs test execution and results.
- Communicates status of testing effort to the User and Test Coordinators as appropriate.

Technical Analysts

Responsibilities:

- Provides technical support to all functional areas for problem resolution.
- Makes required fixes that are identified during the System Test cycles.

Development of test scripts

One of the key activities in developing the System Testing environment is to have Lucas County's ERP Project Team members develop a comprehensive matrix of System Test Scenarios. The list should include all functions to be tested, including areas of special concern.

When a test scenario is completed satisfactorily, the item will be signed off by the user on the scenario worksheet and the disposition recorded on the scenario log maintained by the Test Coordinator. To expedite testing, multiple items on the checklist may be identified on a single Test Scenario Worksheet.

Unit testing

Unit testing deals with testing a program unit, typically developed by a single individual, to determine that it is free of errors in data, logic, or standards. This encompasses dynamic analysis (equivalent partitioning, boundary value analysis, cause-effect graphing, logic based testing, random testing, and syntax testing) and static analysis (complete path testing, decision testing, condition testing, and data flow testing).

System testing

The System Test is designed to test the accuracy and completeness of system table setup and customizations. The System Test will also serve as confirmation to the Lucas County ERP Project Team that employee data integrity is in place. Data integrity will be observed throughout the System Test by "casual" observance of familiar data and data relationships.

Integration testing

Integration testing deals with validating that the software components, which have been unit tested separately, interact correctly when they are put together to perform a higher order function. Integration testing also includes knowledge about dependency check for call, data, and processes, and about interface checking of range, type compatibility, representation, number and order of parameters, and method of transfer.

Parallel Testing

Parallel testing involves running an exact duplicate of a process performed on the legacy system. The output of a parallel test would be compared to the output from the legacy system. An example of a parallel test would be to produce an entire payroll on the new system and compare this to the entire payroll performed on the legacy system.

Performance Testing

Performance testing deals with validating the performance requirements of a system. It includes techniques of instrument performance measures like logging, event counts, event duration, and sampling. It also covers methods for tuning a system for optimum saturation, load and throughput threshold.

Regression testing

Regression testing is re-testing after fixes or modifications of the software or its environment. It can be difficult to determine how much re-testing is needed, especially near the end of the development cycle. Automated testing tools can be especially useful for this type of testing.

Stress testing

This term is often used interchangeably with "load" or "performance" testing. It is also used to describe such tests as system functional testing while under unusually heavy loads, heavy repetition of certain actions or inputs, input of large numerical values, large complex queries to a database system, etc.

User acceptance testing (UAT)

As the name implies, User Acceptance Testing is testing by a selected group of end users to gain their acceptance of the system. UAT follows "sign-off" of system testing. The end users test the system to ensure the business functionality is present to support their business processes. It is critical to have a cross section of users representing all functional areas at each roll out site.

There are two stages in the UAT process. In the first stage, each end-user group will be required to test the functionality of the system as it applies to them, using the test scripts created by the Project Team as a basis. In the second stage, the users will test any additional functions and processes specific to their functional area.

The same users who conduct system testing will perform UAT. The UAT will be performed at Lucas County because UAT is the opportunity for the organization to test out the system.

Testing during Transition to Production

Following the confirmation of test results, the final phase commences with production authorization and the execution of the system migration plan. This plan outlines the communications, actions, and timing associated with the production system rollout, data conversion, and initial production processing and support. Before the conclusion of the project, Lucas County should update its system documentation to include production and support procedures and recommendations for future systems enhancements.

Application Acceptance Test—Complete necessary test scenarios to confirm that the migration process completed successfully and that all data and tools objects were migrated correctly.

Final Data Conversion—Convert all necessary data thereby capturing current balances, open transactions, etc. in the production environment.

Post-Production Support—Establish guidelines for resolving production issues and addressing ongoing development requests.

By the end of the Migration Phase the system will be fully operational based on the functional requirements outlined in the Project Scope document. (For more information on Scope Management, see page 96.)

Test Forms And Tools

A number of special test forms and tools will be used to facilitate the System Test process. Lucas County can use these forms and tools to document and track test scenarios including test results for problem identification and resolution, and to identify the batch jobs that are to be run. The use of these forms and tools will ensure uniformity and completeness in the testing effort. Samples of the forms and tools are provided below. Each is described below.

Test Scripts

The Lucas County Project Team will prepare test scripts for each of the integrated test scenarios that are to be tested to confirm Lucas County's acceptance of the developed application. Test scripts will outline the test case scenario and test conditions. Additionally, test scripts will note the expected results of executing the business case scenario as well as provide team members with the ability to document actual results and sign off on those scripts that are completed successfully.

The purpose of test scripts is to provide a record of:

- The functional area to be tested
- Panel application for data entry
- Form and procedure reference
- Documentation of test execution and expected results
- User satisfaction with scenario outcome

A member of the Lucas County Project Test Team will prepare a test script for each test case. It will be prepared before testing and will identify the specific functions to be tested and the expected results and evaluation criteria. An identifying scenario number will be assigned and entered on the worksheet.

Following the test, the Test Team will examine the output and the results will be compared with the expected results to determine the success. The outcome will be indicated or attached to the Scenario Worksheet and, if a problem exists, the tester will initiate and a Scenario Test Incident Report and forward it to the Test Coordinator.

The next page illustrates an example of a test script. We included an editable version of the test script sample in a separate Microsoft Word document, titled "**LC Test Script.doc**."

NEW HIRE/REHIRE TERMED OR CURRENT EMPLOYEE TEST SCRIPT					
System: HRMS	**Module:** **Open Enrollment**		**Prepared By:** xxx		**Date:**
Process: Reviewing and Entering Personal Information			**Approved By:**		**Date:**
Objective: Test Web Enrollment Functionality					
Assumptions: Select single Employee from Election Data Sets for testing purposes					
Task	**Step**	**Step Description**	**Data Set**	**Expected Results**	**Actual Results**
Navigate to Open Enrollment Function	1	In browser address line type in url	http://xxx.xxx	Sign On page appears	
	2	Enter user name, password and click "Sign On"	employee id from data set, password N/A	HR menu displays	
	3	Click "Open Enrollment" in Navigation Menu			
	4	Click "Go to Wizard"		"Your Personal Information" page displays	
PERSONAL INFORMATION	1	Review personal data for single employee	Employee from Election Data Set		
	2	Click "edit personal information"		"Your Personal Information" page displays with edit boxes open.	
Update Name	1	Click in first name text box, delete name and click "Continue"		Dialog box ="first name cannot be blank"	
	2	Click OK, re-enter first name and tab out	Use correct first name	First name displays in text box	
	3	Click "Continue"		No alert message. "Your Personal Information" page displays. (***Note:*** A dialog box may appear is other required information has not been completed)	
	4	Click "edit personal information" button		"Your Personal Information" page displays with information entered	
	5	Click "Edit Personal Information"		"Your Personal Information" page displays with all information edit boxes open	
	6	Click in last name text box, delete name then click "Continue"		Dialog box = "last name cannot be blank"	
	7	Click OK, re-enter last name	Use correct last name	Last name displays (as entered) in text box.	
Update SSN	1	Highlight SSN field, enter new SSN and click "continue"	123456	SSN cannot be highlighted and changed	
Update Date of Birth	1	Select month from drop down list	April	Drop down list for days displays 30 days	

Test Incident Log

The purpose of the Test Log is to provide a mechanism for tracking testing scenarios through each System Test cycle.

Each test scenario will be recorded on the log by test cycle. The Lucas County Test Coordinator will update the log as test scenario worksheets are executed and turned in to him/her. When test results have been evaluated, the disposition will be entered on the Test Log. The log will indicate the status of each test case and will provide a record that all test cases have been processed successfully.

An example of the Test Log is on the next page. We included an editable version of the Test Incident Log in a separate Microsoft Word document, titled "**LC Test Incident Log.doc**."

Lucas County ERP Implementation Project
Test Incident Log

Status Codes
1—Showstopper
2—Can't continue to next day of scheduled testing
3—Can continue testing with workaround but resolution is needed before production
4—Can continue to production with a workaround

Status	Tester Name	Priority	Function	Raised	Description	Resolution	DB	Res. Type	Target	Assigned	Date Res.

Scenario Incident Report Form

The purpose of the Scenario Incident Report Form is to record information about perceived issues or errors that occur during System Testing. The form is used to identify and document problems from original detection through final resolution.

As part of each test cycle, test results for each scenario will be examined by comparing actual results with expected results. If a problem exists, the Lucas County test team member who discovered the error will prepare a Scenario Incident Report Form. The form will be forwarded to the Lucas County Test Coordinator for logging in the Test Incident database and for follow-up and re-test.

A "problem number" will be entered on the Scenario Incident Report Form. A description of the problem will be included on the form by the tester with accompanying panel prints or reports. The original Scenario Worksheet will also be attached. The packet will be submitted to the Test Coordinator who will insure appropriate follow-up and resolution.

An example of the Scenario Incident Report Form is on the next page. We included an editable version of the Scenario Incident Report Form in a separate Microsoft Word document, titled "**LC Test Incident Form.doc**."

Scenario Incident Report Form

Present and discuss at all status meetings during testing and production support. This is a tool to report, record, and track issues encountered during testing and production.

1) ID:	**2) Status:** Refer to Incident Procedures for definitions ☐ Open ☐ Closed
3) Tester Name (Name & Work Contact Number):	**4) Priority:** Refer to Incident Procedures for definitions ☐ 1 = Critical ☐ 2 = High ☐ 3 = Medium ☐ 4 = Low
5) Function (HR, Benefits, Payroll, etc.)	**6) Raised:**
7) Description:	
8) Resolution:	
9) Database Name: HDEV HTST HPRD HTRN HPRI	
10) Resolution Type (Business Process/System/Training):	
11) Target Date: Date by which the incident should be resolved	**12) Assigned:** Name of person who is assigned to get resolution
13) Date Resolved:	**14) Print Screen Attached:** ☐ YES ☐ NO
15) Re-Test:	

Procedures for Scenario Incident Report Form

We included an editable version of the these procedures in a separate Microsoft Word document, titled "**LC Test Incident Tracking Procedures.doc**."

Fields	Explanation	Responsibility
1) ID:	Assigned by Test Lead at time of incident and used for tracking on the incident log.	Test Lead
2) Status:	Status of Incident: Open or Closed	Tester and Approver
3) Tester Name:	Name & Work Contact Phone Number of Tester	Tester
4) Priority:	This what the tester & Test Lead agree upon. 1 = Showstopper 2 = Can't continue to next day of scheduled testing 3 = Can continue testing with workaround, but resolution is needed before beginning production 4 = Can continue to production with a workaround **1 = Showstopper** **Examples:** • Abnormal end of tasks. • Application causes abnormal termination of concurrently running applications. • Performance degradation. • Data integrity is in jeopardy. • Testing cannot continue until the problem is fixed (no workaround). **2 = Can't continue to next day of scheduled testing** **Examples:** • The application has demonstrated a severe failure preventing use of certain functions • Testing of an area cannot continue without a workaround. **3 = Can continue testing with workaround but resolution is needed before cutover to production** **Examples:** • The application has demonstrated a minor failure preventing use of certain functions, and a testing workaround is available. • The incident prevents system functionality from executing correctly. **4 = Can cutover to production with a workaround** **Examples:** • The function demonstrated a minor failure, but is not required for a successful operation of the system. • The functionality is not required until after the system is live.	Tester and Test Lead

Fields	Explanation	Responsibility
5) Function:	Enter the module in which the error occurred—HR, Benefits, Payroll, Financials).	Tester
6) Raised:	Enter the date that the error occurred.	Tester
7) Description:	The complete scenario of events. • All Steps performed • All Panels opened • All Command menu items chosen • All Error and Warning Messages received (COPY MESSAGES EXACTLY THE WAY THEY APPEAR—IF POSSIBLE, PRINT SCREEN)	Tester
8) Resolution:	COMPLETED BY RESOURCE(S) ASSIGNED BY TEST LEAD. The General Fix to the problem/incident. Usually the steps taken by the Technical Staff to fix problem.	Technical Resource
9) Database Name:	The Database that the problem was discovered: • A = HDEV • B = HTST • C = HPRI • D = TRN	Tester or Test Lead
10) Resolution Type:	Input the type of resolution—Business Process, System, Training	Test Lead
11) Target Date:	Date by which the incident should be resolved	Test Lead
12) Assigned:	Name of the person who is assigned to get resolution	Test Lead
13) Date Resolved:	The date the incident was resolved	Test Lead
14) Print Screen Attached:	Check one of the boxes indicating if there is a print screen attached—Yes or No	Tester
15) Re-Test:	Indicate what happened in the re-test	Test Lead

Recommendations

The Go Live decision

A sign-off will signify the end of system test, recognizing that the core functionality of the ERP system has been tested and verified. Some minor problems may persist, which have not been fully rectified before the initiation of User Acceptance Testing, however these minor issues will be corrected in the post-production environment. The Go/No Go decision to proceed will be made by the sign-off authorities taking into consideration the results of system test and any shortcomings associated with its results.

Use of Implementation Log

Some issues represent obstacles to the ERP implementation that require Project Team members to determine the appropriate resolutions to the issues. Typically, implementation issues relate to one of the following:

- Application design / configuration problems
- Business practice issues
- Problematic software functions
- Software modification requests

Issue tracking, resolution accountability, and ultimate resolution are critical to the timely completion of any project. Issues in the ERP software implementation should be tracked using Project Issue Tracking documents, which will be held on the Lucas County's network drive. Responsibility for update and administration of this system will lay with all project team members from Lucas County. The Project Issue Tracking system will be available to the entire project team.

Documentation and resolution of implementation issues

When issues are discovered, Lucas County should take the following steps:

1. Either the Project Manager or project leads will be contacted to log the issue. If immediate resolution is not possible, the issue is discussed with the Project Team in the next scheduled meeting.
2. The issue is reviewed by the Project Team and resolution attempted. If the Project Team is not able to resolve the issue, the Project Manager reviews the issue(s) with the appropriate department head for input and suggested resolution.
3. The Project Team will review the suggested resolution for adoption. If the Project Team determines that the suggested resolution is not feasible, the matter will be handled in a Project Team meeting, with the relevant department head present for discussion of the issue and resolution. Resolution will be achieved in this meeting.

4. The issue will be closed in the tracking system and resolution detailed for future reference if necessary.

Implement Quality Assurance

Quality Assurance is all of the planned and systematic activities implemented within the quality system to provide confidence that Lucas County's ERP implementation project will satisfy the relevant quality standard. We highly recommend that Lucas County perform quality assurance throughout the project. With the phased implementation approach that Lucas County will be taking in this implementation, there will be plenty of time available to implement a Quality Assurance plan.

Quality improvement includes acting to increase the effectiveness and efficiency of the project to provide added benefits to the project stakeholders. In most cases, implementing quality improvements will require preparation of change requests or taking of corrective action and will be handled according to procedures for overall change control. We have documented change control recommendations in the Scope Management section of this document. If changes are necessary as uncovered in performing Quality Management, Lucas County should implement those changes as recommended in that section of this document.

Establish Quality Assurance as an implementation priority

Implementing Quality Assurance processes methodically, using consensus to reach agreement on processes, and adjusting and experimenting as an organization grows and matures, productivity at Lucas County will be improved. Problem prevention will lessen the need for problem detection. Panics and burnout among the users and the Project Team members will decrease, and there will be improved focus and less wasted effort. At the same time, Lucas County should attempt to keep processes simple and efficient, minimize paperwork, promote computer-based processes and automated tracking and reporting, minimize time required in meetings, and promote training as part of the Quality Assurance process.

The Project Manager Role

The Project Manager plays an important part in Quality Management, since this person is the focal point for and the leader of the ERP implementation project. Lucas County should provide a full-time Project Manager who will serve as the overall project coordinator for the duration of the project.

Some of the functions of the Project Manager include:

- Assigning tasks and allocating resources within the project plan.
- Planning and organizing the work with Technical and Functional Lead Consultants, Lucas County Project Coordinator and Lucas County ERP Project Team members.
- Maintaining the project work plan.
- Maintaining and monitoring the scope of the project.
- Assessing the status of the project against the plan to assure that resources are being used appropriately and that deliverables are completed on time.
- Communicating to the Project Team the status of the project, future activities, and the approach the team will take to each activity.
- Reporting the status of the project to Lucas County leadership on a scheduled basis. The report is to include the activities accomplished during the reporting period, the activities scheduled for the next reporting period, problems encountered and resolution, outstanding issues, corrective actions required, and the status of the deliverables.
- Identifying problems and issues and communicating them to clients in a timely manner
- Communicating the status of the project regularly to the Steering Committee.

The Project Manager role has been outlined in the Roles and Responsibilities portion of this document as well.

Change Management / Communication Plan

Change Management / Communication Plan

Overview

This document summarizes our recommendations for a change management plan to enhance Lucas County's ERP implementation. Change management is the process of aligning Lucas County's people and organizational culture with the changes in its systems and business strategy. A change management plan will help Lucas County generate support from staff members and other stakeholders. This support will be critical in the County's ERP implementation.

Based on our experience, we have found that developing a sense of inclusion throughout the County is very important. Employees who feel as though they are being included in the process of change are much more likely to "buy in" to the change. Further, they are more likely to become positive agents of change for the project—willing to promote the positive aspects of the change to the people they work with.

For a successful implementation of change, Lucas County must:

1. Commit to making change management a key competency and part of the organizational culture.
2. Understand that change drivers exist in Lucas County and they cannot be ignored.
3. Define the desired future state that will result from the change.
4. Build a systematic change management methodology to implement the change.
5. Integrate the methodology into the heart of the organization.

An effective change management plan consists of three elements—a communication strategy, a training and education strategy, and a review of (and possibly an upgrade to) internal reward and incentive systems. We recommend that Lucas County include all three of these elements into its change management plan.

An effective communication strategy starts with the definition of the target audience(s); the messages to be sent; communication methods, vehicles, and channels; and feedback from the recipients. To define all of this, the Project Team should determine the answers to the questions below. The answers to these questions will help determine the direction that the ERP Project Team will take to fulfill its goal of successful implementation.

Change Management Guidelines

Identify the Affected Parties

- Who are the people who this project will affect?
- What are (or will be) their principal concerns about the changes?
- Who are the people who will experience ancillary change from this project?
- What are (or will be) their principal concerns about the changes?
- What items or areas are non-negotiable with respect to enabling change?

Decide on the Messages

- What messages do we need to send? Examples:
  - Why is the change happening?
  - Why not maintain the status quo?
  - What does this change encompass?
  - What will not change?
  - What does the County expect to gain from this change?
  - How does this change further the County's business strategy?
  - How will this change be implemented (people, technology, timeline, effect on the status quo)?
  - Who will the change affect, and in what ways (jobs, processes, skills, technology)?
  - How will the County measure the success of the change?
  - What do I need to know or do with respect to this change?
  - Why should I be supportive of this change?
- Who will receive the messages from the Project Team?
- At what point in the project timeline will the Project Team send messages?
- By what means will the Project Team send messages?
  - Intranet
  - E-mail
  - Payroll stuffers
  - Surveys
  - Town Hall meetings
  - Regularly scheduled meetings
  - Employee Orientation
- How will the Project Team measure the effectiveness of the message delivery method and understanding?
- How will the Project Team set realistic expectations?
- What resources will be available to help the County during and after the change?

Agents of Change

- How will the Project Team share responsibilities as agents of change?
- Who else within Lucas County is ready and willing to serve as agents of change?
- Who else will support the changes and influence their colleagues to accept the changes?
- Who is responsible for directing these people to integrate support for change into their current roles?
- Whom would the Project Team like to see as change agents and support?
- How can the Project Team reach these people?
- How will the Project Team communicate and reinforce change through the other change agents and support?

Determine Desired and Undesired Behaviors

- What are the desired behaviors during and after the implementation?
- How can Lucas County provide incentives to these people to change to the desired behaviors?
- What are current behaviors that will no longer be desired, and who are the people who will be affected?
- What incentives (or lack of disincentives) for these behaviors are currently in place that should be removed, and how?
- What training the affected people need to adapt to and succeed after the implementation?
- How and when will this training be made available?

Performance Metrics

- What performance measurements should Lucas County set to measure acceptance of change?
- How will the Project Team track and analyze these measurements?
- What is the plan for addressing underperformance of achieving targeted levels?

Communication Strategy

All of the members of the Lucas County ERP Project Team should be involved in setting and implementing the communication strategy. However, one member should be selected as the Communications Lead to spearhead the Team's communication plan. The Change Management Specialist is the best choice to be the Communication Lead.

The communication plan should establish the key messages to be delivered, determine the message delivery methods, identify the target audiences, create communications effectiveness measures, and define interaction points with the system users and executive management. The team should periodically revisit the plan to add details as they are determined—for example: training schedules, system availability, and changes to previously announced project features, personnel or timelines.

Regular and informative communication will create a sense of participation and inclusion in the ERP implementation project among the system users and serve as a periodic reminder of the importance of the project to the County. The Project Team should develop and follow a regular and reliable communication schedule throughout the duration of the project. The success of the plan will depend on the participation and follow-through of the entire Project Team.

Messages and Goals

The Project Team should collectively outline the key themes and messages to be publicized to system users and the affected community. The Project Manager or Change Management Specialist should also reiterate these themes and messages to Lucas County's executive management. In addition, informing the audience of the County's overall goals, the relevance of the ERP implementation project, and the ways that the audience members will be affected can contribute to the achievement of the Project Team's goals.

Lucas County should evaluate the appropriate messages to communicate and reinforce based on the factors mentioned above. Some of the specific message that Lucas County leadership and the Project Team should deliver consistently are:

- Replacing existing systems with state-of-the-art, functionally integrated software will effectively and efficiently support the County's mission and strategic vision.
- Lucas County is taking advantage of emerging technologies to improve service.
- The planned approach includes streamlining County procedures, practices, and service by automating and integrating County systems.

- The new system will allow Lucas County to reduce overlap among computing systems, eliminate manual data entry and data entry into multiple systems, eliminate the lack of standardized procedures, and reduce the number of differing data presentations.

Communications should repeatedly highlight the expected benefits of the ERP implementation project. As the project progresses, the communications should provide status updates, describe how issues are being addressed and explain progress against the implementation timeline. The Change Management Specialist should anticipate concerns that exist or may arise from these messages, and address them as candidly and reassuringly as is feasible.

The Change Management Specialist should write and edit all messages to ensure consistency of style and direction. This person will be responsible for articulating the project messages that the team defines, assessing the effectiveness of the communications plan, and guiding the Project Team through the communication plan. The Project Team should act as a group in making decisions about communication strategy and any modifications over the course of the project.

Methods and Frequency

We recommend that the Lucas County ERP Project Implementation Team prepare a kickoff message to the user community and any other individuals that may be impacted by the ERP project as soon as practicable, preferably by October 31, 2001. Most importantly, the kickoff message should give the audience members an overview of what the project and its goals are and how they will affect the individuals who receive the communication. Some audience members will be skeptical about the project—giving them insight into the Project Team's work will help to relieve some of the skepticism.

The kickoff message should also set a precedent for the audience to expect updates to the team's progress at regular intervals; we recommend sending a communication to the general population every two weeks. These updates serve two purposes—one obvious and one psychological. First, the updates provide audience members with the status of the Project Team's work. Second, and equally as important, each update gives audience members a feeling of inclusion in the project, even if they are not directly involved in it. The Project Team should use a combination of different communication vehicles to convey messages and information. E-mail should be the primary vehicle, supplemented by paper-based communications, if necessary, to ensure everyone has access to the team's communications.

These regular communications should also be complemented with a variety of face-to-face communications. For example:

- We suggest that information about the ERP project be disseminated in individual team meetings. Preferably, Project Team members can attend team meetings around the County to discuss the team's messages and progress. If that is not possible, the Project Team should communicate its messages directly to supervisors so they can spread the word about the project.

- We also recommend that the Project Team hold "Town Meetings" in the County's departments to spread the messages to employees. These meetings allow the users and other employees to hear first-hand what is happening with the project. The meetings also give employees a chance to ask questions about the project and how it affects them.

- The Project Team should also update the Board of Commissioners regularly—at least once every two months. As we have experienced during the Strategic Implementation Plan process, the County Commissioners greatly appreciate updates on the status of the project. The ERP implementation is a large expenditure of money—the Commissioners will be very interested in keeping abreast of progress.

- The Steering Committee and executive management should constantly reinforce the distributed messages and acknowledge the contributions of the Project Team and the user community in making the project a success.

About one month before the "go live" date for each phase of the ERP implementation, the Project Team should increase the frequency of written updates to once a week. Progress updates should continue through the completion and go live of the system, giving audience members insight into system enhancements, issues, and actions that the Project Team takes to continue to improve the system and associated processes.

Benefits

Positioning the project updates as a consistent and meaningful source of information about the project will help overcome some of the obstacles to change within Lucas County. In turn, the updates help increase the potential for the project's acceptance and success among the users and the audience as a whole.

The primary benefit of the project updates is the establishment of a commitment—on the part of the Project Team and the County—to deliver on promises that have been made publicly. We have experienced this in meetings with the Steering Committee during this Strategic Implementation Plan. Instead of merely telling the committee members what we at Acuent were doing, we shared our findings and reports with the team as we completed them. Doing so improved the team's acceptance of our contribution.

Similarly, our reports to the Board of Commissioners have helped us to gain their acceptance of our work and our contribution to Lucas County. During our last presentation to the board, Commissioner Sandy Isenberg mentioned that she wished the County had performed this type of strategic planning on previous projects. We believe this comment was due largely to our frequent updates, candor, and openness about the project and associated.

Communications Content

During the initial months of executing the communication plan, the Project Team should focus on the project status, outstanding issues, concerns in the user community, and upcoming milestones. Communications should set realistic expectations of the nature of upcoming changes, anticipated enhancements, and capabilities and timeline. Messages should also inform the audience of issues that will not be resolved in the course of the project and the general context for those decisions. Once a targeted communication plan has been determined, the messages from the Project Team should acknowledge and address specific issues that users and others raise repeatedly, such as reporting and training.

As the Project Team receives questions and feedback, the team should compile a list of Frequently Asked Questions (FAQs) and responses to incorporate into future communications (and possibly as a basis for ongoing user inquiries). System power users will naturally arise through this process, and should be profiled and publicized among the user community as additional resources.

As the go-live date approaches, the emphasis of communication should shift to the training programs and user resources that are being rolled out and the importance that these programs will have for both the individual user and for the overall project. Once the Project Team and Lucas County management define the scope of these programs and resources, the team should decide what messages to publicize and reinforce among the user community. Users will become increasingly concerned about their personal roles and responsibilities during and following the ERP implementation. The Project Team should make every effort to answer users' questions and concerns honestly and directly, while reassuring them that the transition will proceed smoothly.

In the final month before the go-live date, communication should summarize the efforts and activities that have prepared the County for a successful implementation. Message content should also acknowledge and express appreciation for the cooperation and adaptability of Lucas County employees in establishing a foundation for achieving the County's goals. This set of messages should alert the audience to specific events or situations that may affect them during the final preparations for the implementation.

The Project Team should decide on the major sections to be covered in each communication. One suggested structure might include, but not limited to:

- Status update—A descriptive paragraph and timeline about the Project Team's work.
- Key activities since the last update.
- Key activities planned for the upcoming two weeks or month.
- A message from one of the "key players" in the ERP implementation, such as a member of the Steering Committee, Project Team member, County Commissioner, or another visible stakeholders.
- FAQs and Answers—to highlight and address the concerns among the users and general audience (as they are received).
- What you should know about and expect from the Project Team. For example:
  - What happens during the go-live period—the effects on system users?
  - What will change and what will not change during and after implementation?
  - What will change after going live?
  - What user resources are planned, and when and how they will be made available—print, online, initial training, ongoing training, Users' Group, help desk, common reports, FAQs, etc.)?
  - Success stories about Lucas County's experience in advancing its data management capabilities, etc.

Assessment

To determine what is the most effective means of communication for Lucas County, it is important for the Project Manager to measure the receipt and acceptance of communication periodically. Establishing feedback channels allows the necessary information to be used to adjust or modify communication and change management tactics until the desired results are achieved.

Training and Education Strategy

A comprehensive plan for change management, including training and education, is critical for Lucas County to have a successful ERP implementation. Change management training and education will reinforce the messages from the Project Team and alleviate some of the resistance among staff members.

Training

Lucas County's requirements for new skills and behaviors must be identified and a plan developed that will deliver the right learning opportunities to the right people at the right time, allowing them to adjust to the new requirements. It is important to ensure that all training opportunities include education that helps the employee understand why the specific change is happening, what the impact to their position is and why the organization is undertaking the change. If there is no change to the individual's position, it is important and comforting to tell people there is no impact. These messages allow individuals to better focus on the specific change, rather than how it may change the expectations of their performance.

There are three main courses of training that Lucas County must undertake to implement its ERP system successfully. They are training focused on the ERP product, user education, and change management training.

Product Training

The first is product training focused on the Project Team. Several Lucas County staff members, including DP/IS staff members and "leads" from the functional areas, will attend product training specifically for the ERP system itself. This training will provide Lucas County with technical expertise in the ERP system that it purchases. Each staff member who attends product training must strive to absorb as much as possible about the product, especially as it relates to their own department's business.

End User Education

After product training, those who attended the training will (or should be able to) bring practical knowledge about the ERP system back to the their departments. This knowledge provides the basis for the second course of training—educating the users. Everyone who interacts (or will interact) with the new ERP system must receive proper training. The users' training should not only include specific training about each user's specialty, but also general knowledge about the ERP system—how it works, how data flows and is shared among departments, etc. Such training will give Lucas County and its employees a much greater chance of success in its ERP implementation.

Organizational Change Training

The third course of training revolves around organizational change. As we have stated above and in other parts of this document, change is often a difficult situation for people. Some staff members will resist the change that the new ERP system brings—It is common for people to say, "The current system works fine. Why mess with it?" It is important that all of the Project Team members receive change management training. Armed with this training, they will be more effective when speaking about the ERP implementation with their teams and other people around Lucas County.

Each of the three courses of training are important—Lucas County should plan to give its people as much training as possible. As part of this whole Strategic Implementation Plan, we interviewed several other County governments about their implementation experiences. Almost every one echoed the same sentiment (paraphrased here)—"During an ERP implementation, there is no way to give your people TOO much training."

Education

Educating Lucas County employees will be equally important in making the ERP implementation a success. In this case, education is different than training. Training, as noted above, is a series of specific, focused activities designed to imbed new skills or actions into a job or process. Education, however, is providing information that allows understanding about actions or changes. At Lucas County, not everyone will need training on the ERP system, but almost everyone will need education about the ERP system and what it means to them.

Providing education to Lucas County's employees is done through the communication methods above—communication updates (e-mail and paper), team meetings, and Town Meetings. Each method provides employees with the information they need to understand and begin accepting the change that the ERP implementation represents.

Evaluate Reward/Incentive Systems

Lucas County will need to review its current reward systems and assess how to revise those systems to develop incentives that reward behavior that supports future goals and initiatives. The steps to accomplish this:

- Identify current behaviors that are rewarded.
- Identify current performance measurements.
- Reward incremental steps towards new (desired) behaviors.
- Reward achievement of new (desired) performance.
- Eliminate undesirable behaviors through disincentives.

It is important that Lucas County offers incentives, whenever possible, to motivate team members and raise the likelihood that they will not leave the organization during the implementation project. These special incentives for the members of the Project Team can be both formal (monetary rewards upon project completion, additional time off, project celebrations) and informal (recognizing extra effort, opportunities to work on attractive portions of the project) rewards.

Supplemental Material

Change Management Plan—Outline

I. Establish Communications Committee

- Determine team members
- Determine reporting relationship to project governance (Steering Committee)
- Determine meeting frequency
- Assess Organizational Readiness
  - Culture
  - Infrastructure/Technology
  - People
  - Business processes
  - Determine appropriate training needed to prepare the organization for change
  - Determine organizational weaknesses that must be addressed with change management
  - Identify ways to involve those impacted early and throughout the project
  - Establish an Issue Resolution Committee or determine methodology for issue resolution
  - Outline major milestones and dates of plan
  - Update plan / add details as project progresses

II. Monitor effectiveness of change management program

- Establish performance metrics to manage effectiveness of change program
- Discuss organizational tone/acceptance at project status meetings
- Team members to monitor organizational acceptance on a regular basis
- Perform training evaluations at each session to monitor effectiveness
- Analyze results of all feedback
- Adjust communication and team activity as appropriate throughout project

III. Develop Communication Plan

- Communicating committee initial actions
  - Determine the key groups and the most effective type of communication for each group
  - Assess impact on individuals
  - Determine benefits to individuals and organizational groupings
  - Assess impact to the organization
  - Establish the goals of the communication effort

- Establish messages to reiterate throughout the project
- Determine frequency of communications and lead times needed for different communications means
- Set communications effectiveness measures

- Communications
  - Have project leads communicate project messages to key leaders
  - Determine the appropriate person to deliver the communication at each interval
  - Written communication(s) on project status at agreed upon frequency
    - Create communication to announce the project effort
    - Overview of project, its goals, how it fits into Lucas County's goals
    - Where, when, and how audience can find communications about the project
    - Schedule communications to be distributed with increasing frequency as the project nears "Go Live"
    - Schedule communications to be distributed with decreasing frequency as the project recedes from "Go Live"
    - Establish the communication distribution schedule and format
      - Monthly distribution beginning at least five months prior to "Go Live"
        - Project status report
        - Key activities to date
        - Key activities in the upcoming month (or until next planned communication)
        - Current issues and concerns and how they are being addressed
        - "Success stories" within the project scope
        - Benefits to be derived from the effort
        - Note from key stakeholder(s)
        - Set realistic expectations of what will and will not fall within project scope
        - Schedule demonstrations of the ERP system for the user community
        - Rolling list of FAQs and answers
        - User resources—what they are, where they are/will be, how they can be accessed
        - Training programs being rolled out and their importance to the success of the project
      - Weekly distribution during month prior to "Go Live"
        - Focus on specific actions to achieve readiness
        - Appreciation of cooperation and efforts
        - What to expect during go-live

        - Monthly distribution Post "Go Live"
            - Communicate how glitches or unresolved issues are being addressed and overcome
            - Ongoing training resources
            - Reminder of / transition to user resources
    - Monitor communications effectiveness measures
        - Increase use of effective communications tools
        - Modify communications and/or means to increase effectiveness
        - Incorporate surveys or feedback mechanisms in each communication
        - Use informal feedback methods to assess the reach of communications
    - Ensure timeliness of Intranet postings
    - Ensure that all of the affected community has access to communications
    - Hold Town Hall meetings as appropriate
    - Send informal e-mails as appropriate
    - Hold department meetings as appropriate
    - Meet with the Steering Committee as appropriate
    - Meet with the issue resolution committee / follow predetermined methodology as appropriate
- Education
    - Determine project related areas that may require employee education (including benefits)
        - Why the County is undertaking this project
        - What the project does and does not entail
        - Who will be affected and how
        - Expected changes, benefits, and concerns
    - Determine project areas that may require project team education
    - Determine education required to gain understanding from senior management (e.g., Board of Commissioners, Auditor, etc.)
    - Determine education required to gain understanding from key influencers (e.g., department heads, end users, others)
    - Analyze education themes and group similar areas
    - Incorporate education requirements into communications and training
    - Develop separate education vehicles where appropriate
        - Hold classes or less formal brown-bag lunches
        - Written communications
        - Focus groups
        - Evaluate the need to repeat this process at regular intervals

IV. Training

- Project Team—ERP product skills, technical skills, and Change Management skills
- System Users—ERP product skills and technical skills (if appropriate)
- IT Support—ERP product skills

V. Training - Just before to and after go live date

- Assess training needs based on the ERP product
- Assess training needs based on other new technology
- Assess training needs based on any business process changes
- ERP Product training
  - Develop customized training materials based on assessment
  - Incorporate appropriate change messages at the beginning of all training
  - End User Training—ERP product skills
- Business Process Changes
  - Develop customized training materials based on assessment
  - Incorporate appropriate change messages at the beginning of all training
  - Project Team training—Process changes
  - End User Training—Process changes
- References and Resources
  - Document user guides and manuals
  - Organize FAQs into ongoing resource
  - Establish accessible list of common reports and their contents
  - Publicize / enable user access to guides and manuals

VI. Incentives and Rewards

- Identify desired behaviors and necessary changes from current state
- Employee incentives to modify behaviors
- Removal of current incentives (or lack of disincentives) to perform undesired behaviors
- Formal Project Team Incentives
- Informal Project Team Incentives
- Formal Suggestion Plan Incentives
- Celebration Activities/Events

Organizational Change Readiness Assessment

Another important element in Lucas County's change management program is to assess the organization's readiness, both tactically and culturally, for the implementation and use of the ERP system. Doing so up front will identify risk areas that can be minimized through preventive project and change management interactions.

The Readiness Assessment Checklist (on page 176) is a tool for Lucas County to use in the initial stages of the ERP implementation project. Its purpose is to identify areas that need additional preparation to complete the implementation successfully. The readiness assessment should be distributed to multiple people involved in the project to determine not only organizational readiness, but to determine consistency in perception among the parties involved. The following are instructions to use the assessment tool properly. We included an editable version of the Change Readiness Assessment in a separate Microsoft Word document, titled "**LC Readiness Assessment.doc**."

Distribute and complete the Checklist

1. Distribute the checklist to the Functional and DP/IS project leads, as well as any other key party involved, such as the consulting partner or other team members.
2. Complete the Score column using the 1-5 scoring, as indicated. This column evaluates the current status or condition of the organization, project environment, and plan.
3. Complete the Weight column using the 1-3 scoring, as indicated. Use this column to determine the relative importance of each item to achieving project success.
4. For each statement, multiple the Score by the Weight to obtain a weighted score. Enter each result in the Weighted Score column.
5. For each statement, determine the Total Possible by multiplying the Weight by 5. Enter each result in the Total Possible column.

Interpret the Results

1. Identify the areas in which the Weighted Score is equal to or approximates the Total Possible. This identifies the areas in which Lucas County and its project management are well prepared to undertake the project.
2. Identify all areas where the Weighted Score differs significantly from the Total Possible. This signals the areas in which the state of project readiness has potential for improvement and highlights project risks that must be addressed.
3. Compare the readiness scores of the functional and IS Project Team members. From this information, Lucas County can identify, discuss, and narrow significant discrepancies or viewpoints concerning the readiness before proceeding.

4. Determine which of the identified areas are realistic candidates for improvement in Weighted Score. For each area, create a plan to improve the project readiness. For example, if a prioritized list of each department's needs and requirements has not been created, the Project Manager can distribute a template to each department manager to complete by a certain deadline.
5. Create a separate list of identified areas that are less likely candidates for Weighted Score improvement. For example, it is unlikely that the organization culture can be altered within the time of the project. These items should be taken into account when creating the Change Management plan and addressed to the extent possible during the project.
6. Assess the key project risks based on planned readiness improvement and change management activities.

Members of the functional areas and DP/IS should collaborate to determine the required steps and timeline needed to improve project readiness in the areas identified in the checklist. The project manager should spearhead the efforts to ensure these risks are minimized during the execution of the project plan.

Readiness Assessment Checklist for ERP Upgrade Project

Scoring:
The Score multipled by the Weight will result in the total Weighted Score.

Scores
1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

Weights
1 = Useful
2 = Important
3 = Critical

	Score (1-5)	Weight	Weighted Score	Total Possible
A. Internal Organizational Readiness				
There is a prioritized list of each department's needs and requirements				
There is a wish list for each department				
There is a flowchart of how information is shared between departments				
Organizational goals are established				
Transaction volumes are available				
B. Executive Management Goals and Commitment				
The scope of the project is clearly defined				
The goals of the project are clearly defined				
Goals have been translated into measurable benefits				
A business case/ROI has been completed				
Executive Managers agree the project is a priority				
Executive Management is committed to the project				
Executive Manager goals are consistent with each other				
Executive Manager goals are compatible with each other				
Executive Management will be users of the proposed system				
There is an Executive Management sponsor of the project				
There is an allocated budget for the project				
C. Technical Environment				
The IT group agrees the project is a priority				
The IT group has a vested interest in the project				
The IT group has the bandwidth to support the project				
The IT group has implemented an ERP system before				
Data ownership is defined				
The data is clean				
D. Organizational Culture				
Our organization is forward thinking about technology				
Our organization is open to business improvement (new ways)				
Our organization is comfortable taking technology risks				
The organization is adaptable and flexible				
There are no planned reorganizations in the near future				
E. Communication Strategy				
Our organization is adept at communication				
The department responsible for communication is defined				
A communication plan for this project is in place				
Various communication tools are available for use throughout the organization				
F. Education/Training				
Our organization is committed to education/training				
The department responsible for education/training is defined				
An education/training plan for this project is in place for IT				
An education/training plan for this project is in place for the project team				
An education/training plan for this project is in place for the users				
G. Incentive/Reward Systems				
Our organization is committed to incentive/reward systems				
The department responsible for incentive/reward systems is defined				
An incentive/reward system is in place for the project team				
An incentive/reward system is in place for the users				
H. Project Team				
The project team has been defined				
The right people are on the project team				
A project manager has been selected from a functional area				
The project manager has identified a project co-lead from the IT group				
Each area/department is represented on the project team				
The project team has experience implementing an ERP system				

Appendix

Supplemental Tools

Sample Request for Proposal

To assist in Lucas County's effort to purchase and implement an ERP system, we provide a sample Request for Proposal (RFP). Lucas County can use the sample RFP as a template for its own RFP. The sample is published in a separate Microsoft Word document, titled "**LC ERP RFP Sample.doc**."

Project Management Database

To assist the Lucas County Project Manager, we provide a project management database. The database is in a separate Microsoft Access file, titled "**LC Project Issues.mdb**."

Project Scope

To assist the Lucas County Project Manager, we provide a template of the project scope document. The template is in a separate Microsoft Word document, titled "**LC Project Scope.doc**."

Position Descriptions

The following pages summarize the position descriptions and responsibilities of each of the members of the Lucas County DP/IS department.

These job descriptions represent the standard for each position. In some cases, incumbents may perform additional or different duties, based on their individual assignments.

Computer Operator

Incumbent: **Dustin Sabo**

RESPONSIBILITIES

- Provide a high level of service and technical support within the Lucas County Auditors Office, all other county services and departments, and any other government or private sector area associated.
- Responsible for operations of the Lucas County minicomputers, including management of Lucas County minicomputers, scheduling, managing printers, performing backup and recovery, network monitoring, and managing forms.
- Document and develop necessary operational procedures for all assigned projects in accordance with established departmental and county standards.
- Perform all project management activities associated with the assigned projects.
- Prepare procedural instructions and supply training, as required.
- In the absence of the Operations Analyst, perform duties as may be required.
- Respond in a pleasant and professional manner to all calls for assistance and/or troubleshooting of computer procedures, manual procedures and hardware or software.

TECHNOLOGIES

Computers—Minicomputers, microcomputers, and associated peripheral devices.
Environment—Multi-vendor networked computers, MPE, HPUX, Windows operating systems, LANs and WANs.
Languages—All micro and minicomputer software that is currently being used within operation areas of the Lucas County Data Processing Center.
Processing Modes—Batch, Transaction Processing, Real Time and Client Server.

Computer Programmer

Incumbents: **Thomas Freer, Karen Peck, Karen Ramsey, Barbara Siemens, Robert Stewart, Joseph Zalewski**

RESPONSIBILITIES

- Write new computer programs and modify existing computer programs to facilitate the development and implementation of computerized data systems. The programmer must structure new solutions to maximize the effectiveness of the available hardware and/or software, and to reduce or eliminate the duplication of programming effort.
- Develop realistic time/cost estimates and implementation schedules, including gross hours for development of the project and elapsed time frame based on effectiveness rate of the equivalent measure in use at the time.
- Assist or substitute for the Systems Analyst whenever it is useful and advantageous for the successful completion of the project.
- Document and develop the necessary operating procedures for all assigned projects in accordance with established departmental and county standards.
- Perform project management activities associated with assigned projects.
- Prepare procedural instructions and supply training, as required.
- Perform program testing, which includes preparing test data, data files, testing programs, and system logic accuracy of the system before the system goes into production.
- Improve personal programming capability in every programming language applicable to mini and microcomputers in use by the County.
- Respond in a pleasant and professional manner to all requests for assistance from the Lucas County MIS Director or users.

TECHNOLOGIES

Computers— Hewlett Packard minicomputers, IBM compatible microcomputers, associated printers, scanners, and other peripheral devices.
Environment— Multi-vendor networked processors, MPE/XL/DOS/UNIX operating systems, Novell PC LAN, PC MSDOS.
Languages— Cobol, Basic, SpeedWare, Paradox, FoxPro, WordPerfect, Dbase, Quattro, Lotus/123, HP Terminal emulation software, and other common microcomputer software packages.
Processing Modes—Batch, Transaction Processing, Real Time and Client Server.

Computer Programmer Analyst

Incumbents: **Gary Garbers, Scott Geffe, Martin Limmer, Leslie Rhegness, Shawn Russell, James Volschow**

RESPONSIBILITIES

- Write new computer programs and modify existing programs within any level of complexity required for systems, subsystem, or computer procedure design.
- Define, design, and develop computer and/or manual systems, subsystems, and procedures for maximum effectiveness.
- Develop realistic time/cost estimates and implementation schedules.
- Develop and execute system, subsystem, and program test procedures to ensure their operational readiness before being put into production status.
- Aid, or substitute for, the Systems Analyst whenever it is useful and advantageous for the successful completion of a project.
- Document and develop operating procedures for all assigned projects in accordance with established departmental and County standards.
- Perform project management activities associated with assigned projects.
- Perform user training for new or changed methods of operations as required during the analysis, design, testing and implementation phases of assigned projects.
- Maintain the required level of proficiency in all hardware, software, and related procedures being used in the County.
- Propose new procedures or changes to existing procedures to improve the operating efficiency and benefit the areas of responsibilities and Lucas County.
- Stay abreast of industry development and convey their applicability to Lucas County with regards to the potential contribution to the County's goals.

TECHNOLOGIES

Computers—Hewlett Packard minicomputers, IBM compatible microcomputers, and associated printers, scanners, etc.
Environment—Multi-vendor networked processors, MPE/XL/DOS/UNIX operating systems, Novell PC local area network, PC MSDOS.
Languages—Cobol, Basic, Speedware, Paradox, FoxPro, Word Perfect, Dbase, Quattro, Lotus/123, HP Terminal Emulation software, and other common microcomputer software packages.
Processing Modes—Batch, Transaction Processing, Real Time, Client Server.

CERTIFICATIONS OR CLASSES TAKEN

Oracle SQL Plus, Oracle DBA, SQL Server Administrator, ESRI Arc/Info, ESRI Avenue, ESRI ArcView, Oracle Database Design, Inteq Business Process Modeling and Analysis, JetForm Programming and Administration, Omnidex Administration, TurboIMAGE, Crystal Reports.

GIS Programmer (I and II)

Incumbents: **Aaron Boos, Brandon Brown**

RESPONSIBILITIES

- Write, debug, and document GIS programs and software in conjunction with other GIS and Research and Development (R&D) staff.
- Working closely with end-users, create new programs for routine use of GIS systems data.
- Provide technical support and program updates of GIS client software.
- Working closely with R&D staff, implement appraisal modeling and analysis tools.
- In conjunction with the Systems Specialist, work with other county agencies and the County Data Processing Center to facilitate access and integration of other data systems to the GIS system.
- Write programs to support analytical and administrative needs of the Lucas County Auditor's Office under the supervision and coordination of GIS administrator.
- Attend training as necessary to upgrade software and programming skills.
- Work closely with the Systems Specialist as additional support staff for all PC and Unix system upgrades and integration.
- Provide basic Unix programming for shell languages and X windowing software.
- Assist in other office areas as assigned by the Director of the Real Estate Division.

TECHNOLOGIES

Visual Basic 6.0, MS Transaction Server, IIS, Adobe Photoshop, ESRI ArcView, ESRI Map Objects, GEO Micro Map Server, MS Access, HTML.

CERTIFICATIONS OR CLASSES TAKEN

Visual Inter Dev (Web development), VB Script, Java Script, XML Boot Camp

Network Analyst

Incumbent: **Tony Bundy**

RESPONSIBILITIES

- Provide a high level of service and technical support within the Lucas County Auditors office, all other county services and departments, and any other government or private sector area associated.
- Write new microcomputer programs and modify existing microcomputer programs to facilitate the development and implementation of computerized micro data systems.
- Develop realistic time/cost estimates and implementation schedules.
- Improve the productivity of PC and Network users by identifying opportunities for implementation of current and developing technology. Make suitable and cost effective hardware and software recommendations to the Lucas County Auditors office and other users through an understanding of the users' needs and current knowledge of the mini/micro industry.
- Configure install and maintain mini/microcomputers and networks (local and wide area), and County specific data communications and software to ensure responsive and technically sound support.
- Document and develop operating procedures for all assigned projects in accordance with established departmental and County standards.
- Perform project management activities associated with assigned projects.
- Prepare procedural instructions and supply training, as required.
- Effectively perform micro program testing, which includes preparing test data, data files, testing programs, and system logic to ensure accuracy of the system before the system goes into production.
- Improve own programming capability in every programming language applicable to microcomputers in use by the County.

TECHNOLOGIES

Computers—Hewlett Packard minicomputers, IBM compatible microcomputers and associated printers, scanners, etc. Communications devices including multiplexers, modems, and bridges.
Environment—Multi-vendor networked processors, MPEix/XL/DOS operating systems, Novell PC local area networks, PC MSDOS, Windows.
Languages—Cobol, Basic, SpeedWare, Paradox, FoxPro, Word Perfect, DBASE, Quattro, LOTUS/123, HP Terminal emulation software, and any other microcomputer software package that may be introduced in the future.
Processing Modes—Batch, Transaction Processing, Real Time and Client Server.

Network Technician (I and II)

Incumbents: **Ed Benner, Carl Boldt, Jennifer Dane, Jason Gears, Cherie Muetze, Ruby Nolen, Pa'Trice Pettaway, Don Winkelman**

RESPONSIBILITIES

- Assist in the recommendation, requisition, development, installation, and testing of microcomputer hardware, software, and networks.
- Install, set-up, and debug microcomputer hardware, software, and networks. This includes the installation of network cards, internal/external modems, CD's, Streaming DAT tape systems.
- Install coax and twisted pair wiring configurations between mini and microcomputers and networks.
- Maintain concise and accurate inventory, location, and history of hardware and software.
- Troubleshoot mini- and micro- hardware where assigned.
- Assist in the planning, development, and installation of both local and wide area micro/mini computer networks as required.
- Develop realistic time/cost estimates and implementation schedules.
- Document and develop operating procedures for all assigned projects in accordance with established departmental and county standards.
- Perform project management activities associated with assigned projects and as directed by departmental policy.
- Perform microcomputer testing, which includes testing programs and system logic to ensure accuracy of the hardware and software systems.
- Write, debug, and document GIS programs and software in conjunction with other GIS and Research and Development (R&D) staff.

TECHNOLOGIES

Computers—Minicomputers, microcomputers, and all associated peripheral devices. All data communications including, but not limited to, multiplexers, modems and bridges.
Environment— All microcomputer network OS, DOS and/or Windows operating systems that are currently being used within the operating areas and responsibility of the Lucas County Data Processing Center.
Languages— All microcomputer software that is currently being used within the operating areas of the Lucas County Data Processing Center.
Processing Modes—Batch, Transaction Processing, Real Time and Client Server.

CERTIFICATIONS OR CLASSES TAKEN

Networking Fundamentals, Windows 2000, Certified Network Administrator (Jennifer Dane)

Operations Analyst

Incumbent: **Christopher Zimo**

RESPONSIBILITIES

- Provide a high level of service and technical support within the Lucas County Auditors Office, all other county services and departments, and any other government or private sector area associated.
- Manage day-to-day work of all network and operations employees.
- Direct and create microcomputer programs and modify existing microcomputer programs. All micro system development and/or programming must be completed under the direction of the Analyst responsible for that client area.
- Develop realistic time/cost estimates and implementation schedules.
- Improve the productivity of PC and Network users by identifying opportunities for implementation of current and developing technology. Make suitable and cost effective hardware and software recommendations to the Lucas County Auditor office and other users through an understanding of the users' needs and current knowledge of the mini/micro industry.
- Configure, install, and maintain mini/microcomputers and networks (local and wide area), fax services, Internet services, and County specific data communication and software to ensure responsive and technically sound support.
- Document and develop operating procedure for all assigned projects in accordance with established departmental and county standards.
- Perform project management activities associated with assigned projects.
- Prepare procedural instructions and supply training, as required.
- In the absence of the Director of Data Processing, perform duties as may be required.

TECHNOLOGIES

Computers—Hewlett Packard minicomputers, IBM compatible microcomputers, associated printers, and scanners, etc.
Environment—Multi-vendor networked processors, MPE/OL/DOS/UNIX operating systems, Novell PC LAN, PC MSDOS.
Languages—Cobol, Basic, SpeedWare, Paradox, FoxPro, WordPerfect, Dbase, Quattro, Lotus/123, HP Terminal emulation software, and other common microcomputer software packages.
Processing Modes—Batch, Transaction Processing, Real Time and Client Server.

Operations Manager

Incumbent: **J.P. Lagger**

RESPONSIBILITIES

- Day-to-day functional management of all networking and operational employees providing a high level of service and technical support within Lucas County, Auditor's office, all other County services and departments, and other government or private sector areas.
- Develop and maintain a five-year plan for operational and networking services for Lucas County data processing.
- Create microcomputer programs and modify existing microcomputer programs to facilitate the development and implementation of computerized micro and mini data systems.
- Develop realistic time/cost estimates and implementation schedules.
- Document and develop operating procedure for all assigned projects in accordance with established departmental and county standards.
- Perform project management activities associated with assigned projects.
- Prepare procedural instructions and supply training as required in a professional manner to achieve the highest level of competence required by each affected area.
- Serve as the acting director in the absence of the director of data processing, performing duties as may be required.

TECHNOLOGIES

Computers—Hewlett Packard minicomputers and associated printers, scanners, etc.
Environment—MPEIX and HPUX operating systems, multi-vendor networked processors, MPE/XL/DOS/UNIX operating systems, Novell PC local area network, PC MSDOS.
Languages—Cobol, Basic, Speedware, Paradox, FoxPro, Word Perfect, Dbase, Quattro, Lotus/123, HP Terminal emulation software and other common microcomputer software packages.
Processing Modes—Batch, Transaction Processing, Real Time and Client Server.

CERTIFICATIONS OR CLASSES TAKEN

HPUX (3 classes)

Systems Analyst

Incumbent: **Jim Baumgartner**

RESPONSIBILITIES

- Analyze client operations in a professional manner to arrive at timely, optimal recommendations for reaching or exceeding stated objectives.
- Direct and provide day-to-day supervision to functional subordinates as well as reviewing their work to assure quality, completeness and adherence to departmental standards.
- Prepare detailed description of the system and the computer programs to be written and continually monitor and review these programs as they are written by the programmers.
- Develop realistic time/cost estimates and implementation schedules.
- Perform project management activities associated with assigned projects.
- Write new computer programs and modify existing programs within any level of complexity required for system, subsystem, or computer procedure design.
- Propose changes that benefit the client and the County. Estimate the net worth of tangible benefits from proposed changes and show the "pay off period" required.
- Document all studies of new or changed automation procedures so that they may be reviewed and interpreted by all levels of internal management, as well as the MIS Director and programming personnel.
- Coordinate new or changed methods of operation among all responsible representatives of the operating entities involved and external vendors or suppliers during the study, design, and implementation phases of projects.
- Develop system test procedures and test data for the system and/or supervise the testing to insure its accuracy before advancing to production status.
- Evaluate the effectiveness and usefulness of the project upon its completion in writing and present it to the MIS Director and the client representative.
- Stay abreast of industry development and convey their applicability to Lucas County regarding the potential contribution to the County's goals.
- Accept guidance by the MIS Director and the client representative, retaining a mutually beneficial relationship with them at all times.

TECHNOLOGIES

Computers—Hewlett Packard minicomputers, IBM compatible microcomputers and associated printers, scanners, etc.
Environment—Multi-vendor networked processors, MPE/XL/DOS operating systems, Novell PC local area networks, PC MSDOS.
Languages—Cobol, Basic, Transact, Powerhouse, Paradox, FoxPro, Word Perfect, Dbase, Quattro, Lotus/123, HP Terminal Emulation software and other common microcomputer software packages.
Processing Modes—Batch, Transaction Processing, Real Time.

Telecommunications Analyst

Incumbent: **Eric Zatko**

RESPONSIBILITIES

- Perform the planning, recommendation, requisition, development, installation, and testing of telecommunication hardware, software, and networks.
- Document and develop procedures to maintain network and system security.
- Document and develop procedures and policies to govern, regulate, and monitor the use of the telephone, Internet, Intranet, and electronic mail/messaging systems.
- Coordinate, develop, schedule, and provide the necessary training for all areas of responsibility.
- Maintain concise and accurate inventory, location and history of telecommunication users and usage.
- Assist in the minicomputer operations, hardware and software environment.
- Develop realistic time/cost estimates and implementation schedules.
- Document operating procedures for all assigned projects in accordance with established departmental and county standards.
- Perform project management activities associated with assigned projects and as directed by department policy.

TECHNOLOGIES

Computers—Minicomputers, microcomputers, and associated peripheral devices. All data communications including, but not limited to, multiplexers, modems, and bridges.
Environment—All microcomputer network OS, DOS, and/or Windows Operating responsibility of the Lucas County Data Processing Center.
Languages—All microcomputer software that is currently being used within the operating areas of the Lucas County Data Processing Center.
Processing Modes—Batch, Transaction Processing, Real Time, Client Server, IVR, and Terminal emulation.

Web Programmer

Incumbent: **Scott Francis**

RESPONSIBILITIES

- Maintain the infrastructure of the County's Web site.
- Specify display standards for Lucas County Web documents and ensure that all submitted documents meet those standards.
- Manage the day-to-day operation of the County Web site, including the transfer, testing and updating of Web materials.
- Counsel departments regarding appropriate content for Web
- Provide guidance with Web related projects in other departments
- Manage interns with Web based projects.
- Obtain digital photographs as requested by County agencies to be published to the Web site.
- Publish existing forms on the Web site so they may be downloaded by the general public.
- Convert submitted documents to Web documents.
- Work closely with end-users to determine what information the various departments want to disseminate on the Web.
- Maintain contact with departmental Public Information Officers in order to receive current press releases to publish on the Web site.
- Attends training to upgrade software and programming skills.
- Research new Web features and tools for authoring documents, managing the Web site, and for expanding on-line offerings.
- Assist with special Web-related programming projects as well as work on new projects for county agencies.
- Maintain county Microsoft SQL Server database intended for Web based information.
- Work with the Webmaster to develop, secure and maintain an Intranet Web site containing internal information and special projects.
- Assist LCIS programmers with projects.
- Assist in other office areas as assigned by the Director of the Information Services.

TECHNOLOGIES

Java Script, HTML, ASP (VB Script), Java, DHTML, SQL Server, MS Transaction Server, Visual Basic.

CERTIFICATIONS OR CLASSES TAKEN

Mastering Adobe Photoshop, XML Boot Camp, NT 4.0 Server, NT 4.0 Workstation, GEO Micro Map Server.

Webmaster

Incumbent: **Gary Kleinfelter**

RESPONSIBILITIES

- Develop new Web based applications using existing databases, Microsoft Transaction Server, Visual Basic, and Visual InterDev (Active Server Pages).
- Recommend new hardware needed for development and production projects.
- Counsel departments regarding appropriate content for Web.
- Assist other LCIS programmers with projects.
- Assist with future planning of LCIS department and Web based applications.
- Manage interns and Web Programmer with Web based projects.
- Provide guidance with Web related projects in other departments.
- Maintain the infrastructure of the County's Web site.
- Specify display standards for Lucas County Web documents and ensure that all submitted documents meet those standards.
- Attends training as necessary to upgrade software and programming skills.
- Research new Web features and tools which for authoring documents, managing the Web site, and expanding on-line offerings.
- Maintain County Microsoft SQL Server database intended for Web based information.
- Develop, secure, and maintain an Intranet containing internal information and special projects.
- Assist in other office areas as assigned by the Director of the Information Services.

TECHNOLOGIES

Java Script, HTML, ASP (VB Script), SQL Server, MS Transaction Server, Visual Basic, Visual InterDev, COM, NT Operating System, MS IIS (Web server).

CERTIFICATIONS OR CLASSES TAKEN

Mastering Adobe Photoshop, XML Boot Camp, NT 4.0 Server, NT 4.0 Workstation, GEO Micro Map Server.

Longevity Data

The following chart shows each DP/IS staff member's tenure with the County.

Position	Incumbent	Longevity (Years)
Programmer Analyst	Baumgartner, Jim	7.75
GIS Analyst	Bellaire, Patricia	3.25
Network Technician II	Benner, Eddie	7.00
Network Technician II	Boldt, Carl	3.00
GIS Programmer	Boos, Aaron	2.75
GIS Programmer	Brown, Brandon	1.75
Network Analyst	Bundy, Anthony	6.00
GIS Analyst	Crawford, Bob	0.75
Network Technician II	Dane, Jennifer	3.00
Administrative Clerk	Flathers, Linda	0.50
LCIS Director	Fournier, Keith	6.00
Web Programmer	Francis, Scott	0.75
Programmer	Freer, Thomas	7.75
GIS Technician	Gahagan, Timothy	0.50
Programmer Analyst	Garbers, Gary	5.75
Network Technician II	Gears, Jason	3.75
Programmer Analyst	Geffe, Scott	7.75
Webmaster	Kleinfelter, Gary	2.25
Operations Manager	Lagger, Jim	16.25
Programmer Analyst	Limmer, Martin	18.25
Office Manager	Lutz, Marianne	6.50
Network Technician I	Muetze, Cherie	0.75
Computer Operator	Nichpor, Daniel	3.75
Network Technician II	Nolen, Ruby	2.25
Programmer	Peck, Karen	3.50
Network Technician I	Pettaway, Pa'Trice	1.50
Programmer	Ramsey, Karen	3.25
Programmer Analyst	Rhegness, Leslie	6.25
Network Manager	Rimmel, Carl	0.25
Programmer Analyst	Russell, Shawn	8.00
Computer Operator	Sabo, Dustin	0.25
GIS Database Coord	Schardt, Randy	5.25
Programmer	Siemens, Barbara	8.75
Programmer	Stewart, Robert	9.00
Computer App Spec	Veitch, Christopher	1.75
Programmer Analyst	Volschow, James	17.50
Network Technician II	Winkelman, Donald	4.25
GIS Analyst	Yoder, Scott	2.00
Programmer	Zalewski, Joseph	3.25
Computer App Supp Spec	Zatko, Eric	4.50
LCDP Director	Zilka, Walter	10.25
Computer Operator	Zimo, Christopher	2.00
	Average	**5.00**

This chart illustrates the average longevity for each position in the Lucas County DP/IS department. (*Sorted by longevity, starting with the longest*).

Position	**Average Longevity (Years)**
Operations Manager	16.25
LCDP Director	10.25
Programmer Analyst (7)	10.18
Office Manager	6.50
LCIS Director	6.00
Network Analyst	6.00
Programmer (6)	5.92
GIS Database Coord	5.25
Computer App Supp Spec	4.50
Network Technician II (6)	3.88
GIS Programmer (2)	2.25
Webmaster	2.25
Computer Operator (3)	2.00
GIS Analyst (3)	2.00
Computer App Spec	1.75
Network Technician I (2)	1.13
Web Programmer	0.75
Administrative Clerk	0.50
GIS Technician	0.50
Network Manager	0.25

Other Government ERP Implementations

The following is a summary of our interviews with representatives from comparable governments. Each implemented an ERP system within the last two years.

Mahoning County, Ohio

Population	257,000	**Number of employees**	2,000
Contact Name	Bob Gleichert	**Contact Position**	MIS Director
Contact Phone	(330) 740-2671		

ERP System / Version	PeopleSoft 7.51 (HR), 7.02 (Finance)
Modules	HR, Payroll, General Ledger, Budget, Purchase Orders, Accounts Payable
Approximate cost of implementation	Over $4 million, including software, consultants, training, and salary adjustments
What approach did you take to the implementation?	Big bang, but only because implementation took place in mid to late 1999 and the organization was rushing to prepare for Y2K
How long did you run parallel?	About 2 months.
How many IS people support the implementation?	Two in-house (one technical and one "Funky-Tech" (a liaison between IS and the functional areas)) and two outside consultants (one DBA and one technical).
How many people from the functional areas support the implementation?	One lead from each of the functional areas (HR, Payroll, Accounting, Purchasing).
How did the IS department change after implementation?	Did not add to permanent staff, but added two consultants and sent several IS (and functional) staff members to training.

Did you make any adjustments to salaries?	Yes, with the main goal of retaining staff members after the implementation—before implementation, staff was much underpaid compared to local market (20% or more).
Did you hire any skill sets for the implementation?	No, but sent current staff members to a lot of training.
What training did the IS and functional staff need for implementation?	Product training (including PeopleCode), SQL, Crystal Reports, Query, Visual Basic.
Did you experience turnover AFTER the implementation?	No, the salary increases seem to have improved retention and created a more attractive work environment.
How did your employees adjust to the implementation?	It was difficult for most of those who interact with the system—change management is very important for everyone involved.

Lessons learned?

- Proper staffing and thorough training (for IS staff and functional areas) are critical for successful implementation.
- Having a skilled Project Manager is key to the implementation.
- Identify "leads" in IS department and each of the functional areas—the leads will be the experts for any problems or changes that come up.
- Hire a Database Administrator and another technical person who knows (or can learn) Crystal Reports, Query, PeopleCode, and SQL.
- Have Web design capability internally to take advantage of the latest versions of PeopleSoft.

Butler County, Ohio

Population	335,000	**Number of employees**	3,300
Contact Name	Greg Sullivan	**Contact Position**	IS Manager
Contact Phone	(513) 887-3418		

ERP System / Version	Oracle 11.05
Modules	HR, Payroll, General Ledger, Purchase Orders, Accounts Payable, Accounts Receivable, Training
Approximate cost of implementation	Approximately $4 million, including software, consultants, and training
What approach did you take to the implementation?	"Fast Forward" implementation—If Butler County were to implement again, would have taken a more methodical, phased approach
How long did you run parallel?	Still running parallel—will be a total of 3 months.
How many IS people support the implementation?	Two Oracle DBAs—interface with technical people and management.
How many people from the functional areas support the implementation?	Five from Payroll and HR, between five and seven from Financials.
How did the IS department change after implementation?	End user requirements greatly decreased—now delegated to experts in the functional areas. Moved from NT environment to UNIX. Also, level and amount of training throughout IS department has increased greatly.
Did you make any adjustments to salaries?	Yes, increases for all of the staff members involved with the implementation—IS and functional employees. The average raise was between 5 and 8 percent.
Did you hire any skill sets for the implementation?	Yes, hired one person with accounting expertise for the Project Team. Also hired three "lower level" people for functional areas to cover legacy system (allowed current functional employees freedom to serve on Project Team.)

What training did the IS and functional staff need for implementation?	Oracle system training, application support, UNIX, troubleshooting.
Did you experience turnover AFTER the implementation?	No, the salary increases stopped some experienced people from moving on.
How did your employees adjust to the implementation?	Among users, the response has been very positive, only a few "stragglers" who do not want to change. In IS department, the response has been less positive—many IS employees feel that they were not included in the planning.

Lessons learned?

- Should have a dedicated Project Manager, preferably one with functional knowledge and Oracle experience.
- Having a third party consulting firm serve as your implementation partner is important. Usually a third party firm is less expensive and at least as knowledgeable about the system.
- Have a Database Administrator (or two) to oversee the hardware and Oracle environment.
- Have a change management person to communicate between the Project Team and the rest of the County.
- It was very valuable for the functional staff members on the Project Team to develop their own training manuals on the system. They now conduct most of the internal training on the system (along with the project DBA).
- NT could not handle the Oracle application, especially the HR and Payroll modules. (That is why Butler County moved to a UNIX environment.)
- Have at least one or two "Technical Assist Request" people to manage requests from the Project Team to Oracle.

Kent County, Michigan

Population	580,000	**Number of employees**	2,000
Contact Name	Dave Boehn	**Contact Position**	IT Director
Contact Phone	(616) 336-8426		

ERP System / Version	Originally PeopleSoft 7.01, have upgraded to 7.52
Modules	HR, Payroll, General Ledger, Budget, Purchase Orders, Accounts Payable, Projects
Approximate cost of implementation	$8.1 million, including software, consultants, and training
What approach did you take to the implementation?	**"**Big bang, unfortunately." If Kent County were to implement again, would definitely use a phased approach. Big bang approach was forced upon them by new County Administrator.
How long did you run parallel?	Payroll—3 ½ months, financials—2 months.
How many IS people support the implementation?	Five, including a Team Lead and four application support techs (team is supported by two DBAs, four network specialists, and two Sys Admin people (Novell and HP)).
How many people from the functional areas support the implementation?	Two from HR, four from Financials, and one from the Enterprise Fund (public works and airport).
How did the IS department change after implementation?	Moved department away from mainframe environment to client-server—now on the verge of adding other client-server applications (property tax and criminal justice systems).
Did you make any adjustments to salaries?	Yes, most IT department salaries increased, but not directly related to PeopleSoft implementation. (Increases were brought about by new County Administrator and new IT Director.) County also added a pay-for-performance system.

Did you hire any skill sets for the implementation?	Added two "homegrown" DBAs (from internal staff)—trained them on Oracle and Informix. Also added network staff.
What training did the IS and functional staff need for implementation?	PeopleSoft support training and end user training (done with consultants initially, then with internal subject matter experts.
Did you experience turnover AFTER the implementation?	Not in IT—as a whole, the group prefers public sector employment. Also, most of Applications Support people have many years of tenure with County.
How did your employees adjust to the implementation?	IT adjusted much better than the general population. The implementation moved the County from centralized processing to decentralized—functional users did not like the change because they had virtually no training or involvement. (Kent County did not use a formal change management program during the PeopleSoft implementation.)

Lessons learned?

- Make sure to work closely with end users to alert them to the changes that will affect them. Include them in planning, if possible.
- Use a phased approach to implementation.
- Hire an internal Project Manager. (Kent County used a contract Project Manager at the beginning of the project, but found that having an internal person would have been much more preferable).

Ramsey County, Minnesota

Population	500,000	**Number of employees**	3,800
Contact Name	Nick Ganas	**Contact Position**	Project Manager
Contact Phone	(651) 266-1060		

ERP System / Version	PeopleSoft / 6.0 (financials) and 7.5 (HR/Payroll/Benefits/Time & Labor
Modules	General Ledger, Accounts Payable, Accounts Receivable, Asset Management, Purchase Orders, HR, Payroll, Time & Labor, Benefits
Approximate cost of implementation	$7.5 million to implement financials, $8 million to implement HR modules. Both totals include software, hardware, consultants, and training.
What approach did you take to the implementation?	Two phases—Financials, then HR
How long did you run parallel?	Two pay cycles (biweekly).
How many IS people support the implementation?	At the peak of activity during the implementation, the equivalent of four full-time employees. Included a Database Administrator, "PeopleSoft Administrator," Systems Analysts, the Programmers. NOTE: The PeopleSoft Administrator is a technical person and serves as a liaison between all of the related areas—IS and the functional areas.
How many people from the functional areas support the implementation?	Two leads from HR, two from Benefits, a Project Manager, and a Change Management Lead. Each of the functional leads was partnered with a consultant.
How did the IS department change after implementation?	Not much.
Did you make any adjustments to salaries?	Not for the Project Team or IS department. In 1998, IS employees received salary increases to stop turnover. Salaries had become too low for local market.

Did you hire any skill sets for the implementation?	No, but gave existing staff a lot of training.
What training did the IS and functional staff need for implementation?	PeopleSoft training, PeopleCode, PeopleTools, SQL. Work with consultants was valuable training for many team members. Also, many users worked on system test scenarios, which became valuable a training experience and refresher.
Did you experience turnover AFTER the implementation?	"Not yet, thankfully." The PeopleSoft Administrator moved during implementation, but no one else has left. Overall, turnover is minimal in the County—most of the Project Team has at least 15 years of service.
How did your employees adjust to the implementation?	Some took it very well, others (less than 10%) struggled with the change despite all of the preparation and training. Trained over 250 users, most with limited access to the system.

Lessons learned?

- Change management was invaluable during the whole process. The Change Management Lead helped give everyone a sense of inclusion into the process. She also instilled a sense of building something that would become a legacy for those who follow.
- It is very difficult to do Project Manager duties AND regular job duties. Highly recommend having a dedicated Project Manager and Change Management Specialist.
- Bring in change management people and ideas two or three months before starting the project.
- Assuming that everyone in the IS department will learn the required skills is probably wrong. Some will not accept or absorb new skills.
- The transition to the ERP system should be transparent to users. After going live, IS staff and Project Team must be prepared NOT to hear a lot of feedback about their performance on the project. (No news is good news.)
- PeopleSoft does not have:
  - Public Pension functionality—had to custom build.
  - Compensatory time functionality (outside of FLSA guidelines)—had to custom build.

Dallas County, Texas

Population	2,200,000	**Number of employees**	6,500
Contact Name	John Hennessey	**Contact Position**	CIO
Contact Phone	(214) 653-7339		

ERP System / Version	Oracle 11.03
Modules	HR, Payroll, General Ledger, Budget, Purchase Orders, Accounts Payable, Accounts Receivable, Projects, Cash Management
Approximate cost of implementation	$14 million, including software, hardware, consultants, and training
What approach did you take to the implementation?	Phased, because of the massive amount of change that needed to happen within the County. Dallas County wanted to build upon "small successes" and develop credibility for the project overall.
How long did you run parallel?	Payroll ran parallel for about 30 days. (Dallas County implemented Payroll module on January 1 and had already updated their internal Payroll processes before the implementation.)
How many IS people support the implementation?	Dallas County outsources most of its IS function. They relied on the contractor to provide them with technical staffing. They brought in several IS people—including DBAs, Programmer Analysts, and System Administration people—throughout the implementation.
How many people from the functional areas support the implementation?	Between 7 and 18 people from the functional areas worked on the Project Team. The number of people varied during each specific phase of implementation.
How did the IS department change after implementation?	At the beginning of the implementation, Dallas County outsourced 100% of its IS functions. Since implementation, they have hired two DBAs, two Oracle Programmer Analysts, one UNIX Administrator, and one System Administrator.

Did you make any adjustments to salaries?	No, since most of IS department is still outsourced and the few internal employees they do have are relatively new.
Did you hire any skill sets for the implementation?	No.
What training did the IS and functional staff need for implementation?	Oracle training for project team.
Did you experience turnover AFTER the implementation?	No.
How did your employees adjust to the implementation?	Very well, although Dallas County experienced some "slowness" in people who were not willing to accept the changes that were happening. Also, staff members who were not accustomed to using PCs had particular trouble adapting to the change.

Lessons learned?

- Negotiate as many training credits in the contract as possible.
- Do a lot of Train-the-Trainer workshops—make sure your internal trainers are completely up to speed on the system.
- The users cannot get too much training on the system.
- Before and during implementation, you cannot communicate too much to your internal staff.
- Start Payroll on January 1—it will be much easier, instead of having to build previous years, quarters, and months.
- Change management was critical to our success—included a thorough communication process, "Town Meetings," and a Stakeholder Committee.

Washington County, Oregon

Population	350,000	**Number of employees**	1,500
Contact Name	John Cronise	**Contact Position**	Project Manager
Contact Phone	(503) 846-4884		

ERP System / Version	Oracle 11i (11.53)
Modules	Phase 1—Assets, Inventory, Accounts Receivable, General Ledger, Budget, Purchase Orders, Accounts Payable. Phase 2—HR, Payroll, and Benefits (in December 2001)
Approximate cost of implementation	$4.5 million, including software, consultants, and training
What approach did you take to the implementation?	Two phases (see Modules above)
How long did you run parallel?	Did not run parallel.
How many IS people support the implementation?	Two—a DBA and a Programmer Analyst (not hired yet). NOTE: Washington County outsources much of its IS functions (operations support and programming support).
How many people from the functional areas support the implementation?	Nine on Project Team—one each from A/P, A/R, Projects, GL, Purchasing, Budget, Training, HR, and Payroll.
How did the IS department change after implementation?	Not much, so far. However, over the next year, will be bringing most of IS functions back in-house (no longer contracted).
Did you make any adjustments to salaries?	Overall, no. However, will have to increase salaries to compete with local job market. Gave newly hired DBA a 10% increase after first 6 months to encourage him to stay with County.

Did you hire any skill sets for the implementation?	No, but will have to after bringing IS functions back in-house.
What training did the IS and functional staff need for implementation?	Oracle training for project team. Sent DBA to 6 weeks of Oracle school.
Did you experience turnover AFTER the implementation?	Lost one member of Project Team (the A/P Analyst). Overall, turnover is not a big issue with the County—many IS employees have over 15 years of tenure.
How did your employees adjust to the implementation?	"50/50"—the implementation was very frustrating for some. The County changed its business model and moved from centralized processing to decentralized—to create paperless functions. However, nearly 400 users received training and many of them were resistant to using the new system. (Washington County did not use a formal change management program during the Oracle implementation.)

Lessons learned?

- There is a direct correlation between involvement in the project and frustration levels among the users. (The more a user is involved in the planning and implementation, the less his or her frustration with the change will be.)
- Oracle has some nice bells and whistles, but some find it "clunky"—especially for those who prefer using a keyboard instead of a mouse.
- Oracle is a "resource hog." Washington County had to double its memory, from 2GB to 4GB.

City of Akron, Ohio

Population	250,000	**Number of employees**	2,900
Contact Name	Bob White	**Contact Position**	Project Manager
Contact Phone	(330) 375-2620		

ERP System / Version	PeopleSoft 7.51
Modules	HR, Payroll, Benefits, Time & Labor
Approximate cost of implementation	$3.5 million, including software, consultants, training, and upgrade to 7.51 from 7.50
What approach did you take to the implementation?	Big bang
How long did you run parallel?	Four weeks
How many IS people support the implementation?	One full-time Database Administrator technical, one full-time technical, and one part-time technical.
How many people from the functional areas support the implementation?	Five from Benefits, four from HR, two from Payroll.
How did the IS department change after implementation?	Not much at all.
Did you make any adjustments to salaries?	Only two small upward adjustments for staff members with added responsibilities (most of IS staff members have been with the City for 20+ years and are already near the top of the pay scale).
Did you hire any skill sets for the implementation?	No.
What training did the IS and functional staff need for implementation?	None, other than product training (staff members already familiar with SQL, Visual Basic, etc.).

Did you experience turnover AFTER the implementation?	No, largely due to the seniority of the IS staff—if the staff members had not been with the City so long, turnover would have been a great concern and problem.
How did your employees adjust to the implementation?	Moderately difficult in the functional areas, more so in the IS department.

Lessons learned?

- Watch out for turnover after staff members get training on the ERP and related functions.
- Project management skills are vital.

City of Cincinnati, Ohio

Population	350,000	**Number of employees**	6,000
Contact Name	Frank Spataro	**Contact Position**	Project Manager
Contact Phone	(513) 352-2438		

ERP System / Version	PeopleSoft 7.52
Modules	HR, Payroll, Time & Labor (not Benefits)
Approximate cost of implementation	$4.2 million, including software, consultants, training, and application upgrade to 7.52
What approach did you take to the implementation?	Big bang
How long did you run parallel?	1 month
How many IS people support the implementation?	Eight technical (including four part-time)
How many people from the functional areas support the implementation?	Two from HR, two from Payroll.
How did the IS department change after implementation?	None.
Did you make any adjustments to salaries?	Not specifically for the ERP implementation, but had already increased salaries prior to Y2K.
Did you hire any skill sets for the implementation?	No.
What training did the IS and functional staff need for implementation?	None, other than product training (staff members already familiar with SQL, Visual Basic, etc.).
Did you experience turnover AFTER the implementation?	No, only scheduled retirements and two consultants who left.

How did your employees adjust to the implementation?	Functional areas adjusted to change well (it gave them a lot more functionality), some IS staff members were reluctant to adopt the changes.

Lessons learned?

- Getting staff members "on board" with the upcoming implementation is important—will overcome obstacles later.

Project Scope Document—Sample

1.0 Application Development

The following functions are to be designed, developed, and tested by the implementation project team.

Application Function	In Scope

2.0 Conversion Programs

The Conversion Requirements documentation highlights the details of what will be converted.

3.0 Interfaces

The Interface Requirements documentation highlights the details of the necessary interface programs.

4.0 Customizations

The Customization Requirements documentation highlights the details of the necessary interface programs.

5.0 Custom Reports

All special reporting needs are included in the Reporting Requirements document.

6.0 Workflow Development

Training

The Training Matrix document will be created during Phase III of the project. This will detail the specific schedule and personnel for training. The following is the training strategy and philosophy to be used for this implementation engagement.

7.0 Core Team Training

8.0 End User Training

Testing

The test plan and scope are covered in detail in the "Test Plan" document.

Production Migration

9.0 Application Rollout

A detailed Deployment Document should be delivered for Phase IV. However, it is important to note that application rollout requires system architecture to be expanded to include all operators designated as "users". The necessary steps must be taken to insure network and database access has been established. All necessary hardware and software upgrades must be complete for each operator's workstation. Additionally, the proper Operator Security and Preferences must be established.

Dun & Bradstreet Report—Lawson

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IN DATE

DUNS: 09-528-6985	DATE PRINTED	SUMMARY
LAWSON ASSOCIATES, INC	MAR 19 2001	RATING 1R4
+LAWSON SOFTWARE		
	APPLICATION	STARTED 1975
380 ST PETER STREET	COMPUTER SOFTWARE	EMPLOYS 1,122(800 HERE)
AND BRANCH(ES) OR DIVISION(S)	DEVELOPMENT	HISTORY CLEAR
SAINT PAUL MN 55102	SERVICES	FINANCING SECURED
TEL: 651 767-7000	SIC NO.	
	73 72	

CHIEF EXECUTIVE: JAY COUGHLAN, PRES-CEO

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SPECIAL EVENTS

03/06/01 CHANGE OF CHIEF EXECUTIVE: According to published reports, Jay Coughlan has been appointed president and chief executive officer. Former chief executive officer Richard Lawson has assumed the post Of chairman of the board. That office was previously held by William Lawson, Sr, who maintains his seat on the board.

02/27/01 OTHER SPECIAL EVENT: According to published reports, Lawson Software, St Paul, MN, has signed a contract with Safeway Inc, Pleasanton, CA. Safeway will leverage its Lawson solutions to Manage financial operations for its corporate headquarters and over 1,700 stores in the US and Western Canada.

02/26/01 OTHER SPECIAL EVENT: According to published reports, IBM, White Plains, NY and Lawson Software, St Paul, MN announced a global strategic alliance to deliver comprehensive e-business solutions to major healthcare insurers.

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* * * CUSTOMER SERVICE * * *

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If you need any additional information or have any questions, please call the D&B Online Customer Service Center at 1-800-223-1026.

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* * * SUMMARY ANALYSIS * * *

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The Summary Analysis section reflects information in D&B's file as of March 19, 2001.

RATING SUMMARY . . . .

The "1R" portion of the Rating (the Rating Classification) indicates business size of 10 or more employees for this company. The "4" on the right (Composite Credit Appraisal) indicates an overall "limited" credit appraisal. This credit appraisal was assigned because the payment information in D&B's file on this company indicates slowness in meeting trade obligations and the open suits, liens or judgments in D&B's file.

Below is an overview of the company's D&B Rating(s) since 01/01/91:

RATING	DATE APPLIED
1R4	12/03/99
1R3	07/21/95
--	01/14/93
3A2	10/12/91
3A3	09/11/91
3A1	01/01/91

* * * PAYMENT SUMMARY * * *

The Payment Summary section reflects payment information in D&B's file as of the date of this report.

The PAYDEX for this company is 71.

This PAYDEX score indicates that payments to suppliers average 14 days beyond terms, weighted by dollar amounts. When dollar amounts are not considered, approximately 56% of the company's payments are within terms.

Below is an overview of the company's dollar-weighted payments, segmented by its suppliers' primary industries:

	TOTAL RCV'D	TOTAL DOLLAR AMOUNTS	LARGEST HIGH CREDIT	% W/IN TERMS	DAYS SLOW <31	31-60	61-90	91+
	#	$	$	%	%	%	%	%
Total in D&B's file	90	1,583,750	400,000					
Top 10 Industries:								
1 Telephone communictns	12	496,750	200,000	82	18	-	-	-
2 Mfg computers	5	257,500	200,000	49	9	40	2	-
3 Misc equipment rental	4	431,250	400,000	96	4	-	-	-
4 Help supply service	4	36,000	30,000	3	42	-	10	45
5 Trucking non-local	4	21,000	15,000	5	83	12	-	-
6 Whol office supplies	2	30,750	30,000	98	-	-	-	2

7	Lithographic printing	2	22,500	20,000	6	44	-	44	6
8	Ret-direct selling	1	70,000	70,000	100	-	-	-	-
9	Mfg comp peripherals	1	70,000	70,000	50	50	-	-	-
10	Misc coml printing	1	35,000	35,000	50	50	-	-	-
11	OTHER INDUSTRIES	46	107,050	20,000	67	17	13	1	2

Other Payment Categories:

Cash experiences	0	0	0
Payment record unknown	8	5,950	2,500
Unfavorable comments	0	0	0
Placed for collection			
with D&B	0	0	
other	0	N/A	

The highest "Now Owes" on file is $100,000
The highest "Past Due" on file is $100,000

Dun & Bradstreet has 90 payment experiences in its file for this company. For your convenience, we have displayed 80 representative experiences in the PAYMENTS section.

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PAYMENTS (Amounts may be rounded to nearest figure in prescribed ranges)

Antic - Anticipated (Payments received prior to date of invoice)
Disc - Discounted (Payments received within trade discount period)
Ppt - Prompt (Payments received within terms granted)

REPORTED	PAYING RECORD	HIGH CREDIT	NOW OWES	PAST DUE	SELLING TERMS	LAST SALE WITHIN
03/01	(001)	50	-0-	-0-		2-3 Mos
	(002)	50	-0-	-0-		4-5 Mos
	(003)	50	-0-	-0-		4-5 Mos
02/01	Ppt	100000	50000	-0-		1 Mo
	Ppt	70000	45000	-0-	N30	1 Mo
	Ppt	20000	20000	500		1 Mo
	Ppt	20000	-0-	-0-		1 Mo
	Ppt	7500	-0-	-0-		4-5 Mos
	Ppt	5000	750	-0-		
	Ppt	5000	-0-	-0-	N30	6-12 Mos
	Ppt	2500	1000	-0-	N30	1 Mo
	Ppt	1000	-0-	-0-		1 Mo
	Ppt	250	250	-0-		1 Mo
	Ppt	100	100	-0-		1 Mo
	Ppt	100	-0-	-0-		2-3 Mos
	Ppt	100	100	-0-		1 Mo
	Ppt	100	100	-0-		1 Mo
	Ppt-Slow 15	25000	2500	2500		2-3 Mos

	Ppt-Slow 30	100000	35000	-0-		1 Mo
	Ppt-Slow 30	75000	-0-	-0-		2-3 Mos
	Ppt-Slow 30	70000	40000	10000		1 Mo
	Ppt-Slow 30	15000	-0-	-0-		1 Mo
	Ppt-Slow 30	1000	-0-	-0-		6-12 Mos
	Ppt-Slow 30	1000	-0-			6-12 Mos
	Ppt-Slow 30	100	-0-	-0-		6-12 Mos
	Ppt-Slow 60	200000	100000	100000		1 Mo
	Ppt-Slow 60	2500	-0-	-0-		6-12 Mos
	Ppt-Slow 60	1000	1000			6-12 Mos
	Ppt-Slow 60	250	-0-	-0-	N30	6-12 Mos
	Ppt-Slow 90	10000	10000	7500		1 Mo
	Ppt-Slow 90	750	-0-	-0-	N30	4-5 Mos
	Ppt-Slow 150	1000	-0-			6-12 Mos
	Slow 10	500	250	250		4-5 Mos
	Slow 35	1000	1000	1000		
	Slow 30-60	5000	-0-	-0-		1 Mo
	Slow 60	1000	1000	250		
	Slow 60	1000	-0-	-0-		6-12 Mos
	Slow 60+	100	100	100		1 Mo
	Slow 30-120	30000	7500	7500		2-3 Mos
	Slow 150+	750	750	750	N30	6-12 Mos
	Slow 240		-0-			6-12 Mos
	(042)	50	-0-	-0-	N30	1 Mo
01/01	Ppt	400000	-0-	-0-		6-12 Mos
	Ppt	200000	40000	-0-		1 Mo
	Ppt	2500	500	-0-		1 Mo
	Ppt	2500	100	-0-		1 Mo
	Ppt	2500	100	-0-		1 Mo
	Ppt	1000	-0-	-0-		1 Mo
	Ppt	750	-0-	-0-	N30	2-3 Mos
	Ppt-Slow 30	30000	-0-	-0-		2-3 Mos
	Ppt-Slow 30	7500	5000	5000	N30	6-12 Mos
	Ppt-Slow 30	5000	5000	2500	N10	1 Mo
	Ppt-Slow 30	500	-0-	-0-		2-3 Mos
	Ppt-Slow 90	1000	-0-	-0-		4-5 Mos
	Ppt-Slow 120	2500	-0-	-0-		6-12 Mos
	Ppt-Slow 120+	500	500	500		2-3 Mos
	Slow 5		-0-	-0-	N15	6-12 Mos
	Slow 30-60	15000	10000	5000		4-5 Mos
	Slow 30-90	20000	-0-	-0-		4-5 Mos
	Slow 90	50	50	50	N30	
	(061)	500	-0-	-0-		6-12 Mos
12/00	Ppt	250	-0-	-0-		6-12 Mos
	Ppt-Slow 30	250	-0-	-0-		6-12 Mos
09/00	Ppt-Slow 120	100	-0-	-0-	N30	6-12 Mos
	Slow 10	15000	2500	2500		2-3 Mos
	Slow 30	100	-0-	-0-	N30	6-12 Mos
	Slow 60	1000	-0-	-0-		6-12 Mos
08/00	Ppt	750	-0-	-0-	1 10 N30	6-12 Mos
	Ppt-Slow 30	1000	-0-	-0-		4-5 Mos
	Ppt-Slow 30	1000	500	-0-		1 Mo

	Slow 30	1000	-0-	-0-		2-3 Mos
	Slow 60	100	-0-	-0-		6-12 Mos
07/00	Ppt	250	-0-	-0-		2-3 Mos
06/00	Ppt-Slow 90	2500	100	100		2-3 Mos
	Slow 90-120	2500	-0-	-0-		4-5 Mos
05/00	Disc	2500	-0-	-0-	1 10 N30	6-12 Mos
04/00	Ppt	30000	30000	-0-	N30	1 Mo
	Ppt	100	-0-	-0-	N30	6-12 Mos
03/00	Slow 30-60	7500	2500	2500		
02/00	Ppt	2500	2500	-0-	N30	1 Mo

* Payment experiences reflect how bills are met in relation to the terms granted. In some instances payment beyond terms can be the result of disputes over merchandise, skipped invoices etc.

* Each experience shown represents a separate account reported by a supplier. Updated trade experiences replace those previously reported.

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FINANCE

12/06/00 Through December 5, 2000, several attempts to contact the management of this business have been unsuccessful. Outside sources confirmed operation and location. Repeated messages left for management went unanswered.

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PUBLIC FILINGS

The following data is for information purposes only and is not the official record. Certified copies can only be obtained from the official source.

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* * * LIEN(S) * * *

A lienholder can file the same lien in more than one filing location. The appearance of multiple liens filed by the same lienholder against a debtor may be indicative of such an occurrence.

DOCKET/WARRANT: 2184557
AMOUNT: $157 STATUS: Void
TYPE: State Tax DATE STATUS ATTAINED: 07/21/2000
FILED BY: STATE OF WASHINGTON DATE FILED: 07/10/2000
AGAINST: LAWSON ASSOCIATES INC LATEST INFO RECEIVED: 08/17/2000
WHERE FILED: KING COUNTY SUPERIOR COURT,
SEATTLE, WA

BOOK/PAGE: 2243/1364
AMOUNT: $1,354 STATUS: Released
TYPE: State Tax DATE STATUS ATTAINED: 06/10/1999

```
FILED BY: FLORIDA, STATE OF                  DATE FILED:            04/22/1999
AGAINST:  LAWSON ASSOCIATES INC & SUBS       LATEST INFO COLLECTED: 07/06/1999
WHERE FILED: LEON COUNTY RECORDERS OFFICE,
             TALLAHASSEE, FL
--------------------------------------------------------------------------------
BOOK/PAGE: 3121/098
AMOUNT:   $498 FICA                          STATUS: Open
TYPE:     State Tax                          DATE STATUS ATTAINED:  05/16/1996
FILED BY: STATE OF GEORGIA, ATLANTA, GA      DATE FILED:            05/16/1996
AGAINST:  LAWSON ASSOCIATES, ATLANTA, GA     LATEST INFO COLLECTED: 07/08/1996
WHERE FILED: FULTON COUNTY RECORDERS OFFICE,
             ATLANTA, GA
--------------------------------------------------------------------------------
FILING NO.: 95-33360014
AMOUNT:   $5,553 Sales and use               STATUS: Released
TYPE:     State Tax                          DATE STATUS ATTAINED:  11/16/1999
FILED BY: CALIFORNIA STATE BOARD OF          DATE FILED:            11/22/1995
          EQUALIZATION                       LATEST INFO RECEIVED:  12/14/1999
AGAINST:  LAWSON ASSOCIATES, A CORP
WHERE FILED: SECRETARY OF STATE/UCC DIVISION
             SACRAMENTO, CA
--------------------------------------------------------------------------------
                           * * * UCC FILING(S) * * *
--------------------------------------------------------------------------------
COLLATERAL: All Assets - Proceeds
FILING NO:  AM40815                          DATE FILED:            01/04/1996
TYPE:       Original                         LATEST INFO RECEIVED:  01/31/1996
SEC. PARTY: FIRST BANK NATIONAL ASSOCIATION  FILED WITH: SECRETARY OF
            MINNEAPOLIS, MN                              STATE/UCC DIVISION,
DEBTOR:     LAWSON ASSOCIATES INC                        OH
--------------------------------------------------------------------------------
COLLATERAL: SEE EXHIBIT A
FILING NO:  19993200140                      DATE FILED:            11/04/1999
TYPE:       Amendment                        LATEST INFO RECEIVED:  12/07/1999
SEC. PARTY: FIRST BANK NATIONAL ASSOCIATION, ORIG. UCC FILED: 01/04/1996
            MINNEAPOLIS, MN                  ORIG. FILING NO: AM40815
            US BANK NA, MINNEAPOLIS, MN      FILED WITH: SECRETARY OF
DEBTOR:     LAWSON ASSOCIATES INC                          STATE/UCC DIVISION,
                                                           OH
--------------------------------------------------------------------------------
COLLATERAL: Specified Inventory including proceeds and products - Specified
            Account(s) including proceeds and products - Specified General
            intangibles(s) including proceeds and products – Specified
            Contract rights including proceeds and products - and OTHERS
FILING NO:  1604567                          DATE FILED:            07/26/1993
TYPE:       Original                         LATEST INFO RECEIVED:  08/20/1993
SEC. PARTY: FIRST BANK NA, MINNEAPOLIS, MN   FILED WITH: SECRETARY OF
DEBTOR:     LAWSON ASSOCIATES INC                        STATE/UCC DIVISION,
                                                           MN
--------------------------------------------------------------------------------
COLLATERAL: All 99 RIGHTS
FILING NO:  1711540                          DATE FILED:            10/24/1994
```

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TYPE:       Partial release                LATEST INFO RECEIVED:  12/02/1994
SEC. PARTY: FIRST BANK NATIONAL ASSOCIATION,ORIG. UCC FILED: 07/26/1993
            MINNEAPOLIS, MN                ORIG. FILING NO: 1604567
DEBTOR:     LAWSON ASSOCIATES, INC.        FILED WITH: SECRETARY OF
                                                       STATE/UCC DIVISION,
                                                       MN
--------------------------------------------------------------------------------
COLLATERAL: Leased Computer equipment
FILING NO:  1882111                        DATE FILED:            10/01/1996
TYPE:       Partial release                LATEST INFO RECEIVED:  10/15/1996
SEC. PARTY: FIRST BANK NATIONAL ASSOCIATION,ORIG. UCC FILED: 07/26/1993
            MINNEAPOLIS, MN                ORIG. FILING NO: 1604567
DEBTOR:     LAWSON ASSOCIATES, INC.        FILED WITH: SECRETARY OF
                                                       STATE/UCC DIVISION,
                                                       MN
--------------------------------------------------------------------------------
COLLATERAL: Computer equipment
FILING NO:  2011837                        DATE FILED:            02/13/1998
TYPE:       Partial release                LATEST INFO RECEIVED:  03/02/1998
SEC. PARTY: FIRST BANK NATIONAL ASSOCIATION,ORIG. UCC FILED: 07/26/1993
            MINNEAPOLIS, MN                ORIG. FILING NO: 1604567
DEBTOR:     LAWSON ASSOCIATES, INC.        FILED WITH: SECRETARY OF
                                                       STATE/UCC DIVISION,
                                                       MN
--------------------------------------------------------------------------------
FILING NO:  2029398                        DATE FILED:            04/17/1998
TYPE:       Continuation                   LATEST INFO RECEIVED:  06/16/1998
SEC. PARTY: U.S. BANK NATIONAL ASSOCIATION  ORIG. UCC FILED: 07/26/1993
            (FORMERLY KNOWN AS) FIRST BANK  ORIG. FILING NO: 1604567
            NATIONAL ASSOCIATION,          FILED WITH: SECRETARY OF
            MINNEAPOLIS, MN                            STATE/UCC DIVISION,
DEBTOR:     LAWSON ASSOCIATES, INC.                    MN
--------------------------------------------------------------------------------
COLLATERAL: Negotiable instruments including proceeds and products -
Inventory
            including proceeds and products - Account(s) including proceeds
            and products - Contract rights including proceeds and products –
            and OTHERS
FILING NO:  2175676                        DATE FILED:            11/05/1999
TYPE:       Amendment                      LATEST INFO RECEIVED:  11/29/1999
SEC. PARTY: U.S. BANK NATIONAL ASSOCIATION, ORIG. UCC FILED: 07/26/1993
            MINNEAPOLIS, MN                ORIG. FILING NO: 1604567
DEBTOR:     LAWSON ASSOCIATES, INC.        FILED WITH: SECRETARY OF
                                                       STATE/UCC DIVISION,
                                                       MN
--------------------------------------------------------------------------------
COLLATERAL: Specified Inventory including proceeds and products - Specified
            Account(s) including proceeds and products - Specified Contract
            rights including proceeds and products - Specified General
            intangibles(s) including proceeds and products - and OTHERS
FILING NO:  1522469                        DATE FILED:            07/26/1993
TYPE:       Original                       LATEST INFO RECEIVED:  08/27/1993
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SEC. PARTY: FIRST BANK NA, MINNEAPOLIS, MN  FILED WITH: SECRETARY OF
DEBTOR:     LAWSON ASSOCIATES INC                       STATE/UCC DIVISION,
                                                        NJ
-------------------------------------------------------------------------------
FILING NO:  1522469                         DATE FILED:            04/24/1998
TYPE:       Continuation                    LATEST INFO RECEIVED:  05/26/1998
SEC. PARTY: FIRST BANK, NATIONAL ASSOCIATIONORIG. UCC FILED: 07/26/1993
            MINNEAPOLIS, MN                 ORIG. FILING NO: 1522469
DEBTOR:     LAWSON ASSOCIATES, INC.         FILED WITH: SECRETARY OF
                                                          STATE/UCC DIVISION,
                                                          NJ
-------------------------------------------------------------------------------
COLLATERAL: Negotiable instruments including proceeds and products –
            Inventory including proceeds and products - Account(s) including
            proceeds and products - Contract rights including proceeds and
            products – and OTHERS
FILING NO:  1522469                         DATE FILED:            11/04/1999
TYPE:       Amendment                       LATEST INFO RECEIVED:  12/06/1999
SEC. PARTY: U.S. BANK NAITONAL ASSOCIATION, ORIG. UCC FILED: 07/26/1993
            MINNEAPOLIS, MN                 ORIG. FILING NO: 1522469
DEBTOR:     LAWSON ASSOCIATES, INC.,        FILED WITH: SECRETARY OF
            MINNEAPOLIS, MN                             STATE/UCC DIVISION,
                                                        NJ
-------------------------------------------------------------------------------
FILING NO:  96361133                        DATE FILED:            01/03/1996
TYPE:       Original                        LATEST INFO RECEIVED:  04/30/1996
SEC. PARTY: FIRST BANK NATIONAL ASSOCIATION,FILED WITH: SECRETARY OF THE
            MINNEAPOLIS, MN                             COMMONWEALTH/UCC
DEBTOR:     LAWSON ASSOCIATES, INC.                     DIVISION, MA
-------------------------------------------------------------------------------
COLLATERAL: Negotiable instruments including proceeds and products –
            Inventory including proceeds and products - Account(s) including
            proceeds and products - Contract rights including proceeds and
            products – and OTHERS
FILING NO:  99672691                        DATE FILED:            11/04/1999
TYPE:       Amendment                       LATEST INFO RECEIVED:  01/10/2000
SEC. PARTY: U. S. BANK NATIONAL ASSOCIATION,ORIG. UCC FILED: 01/03/1996
            MINNEAPOLIS, MN                 ORIG. FILING NO: 96361133
DEBTOR:     LAWSON ASSOCIATES, INC.,        FILED WITH: SECRETARY OF THE
            MINNEAPOLIS, MN                             COMMONWEALTH/UCC
                                                        DIVISION, MA
-------------------------------------------------------------------------------
COLLATERAL: Negotiable instruments including proceeds and products –
            Inventory including proceeds and products - Account(s) including
            proceeds and products - Contract rights including proceeds and
            products – and OTHERS
FILING NO:  30901746                        DATE FILED:            11/04/1999
TYPE:       Original                        LATEST INFO RECEIVED:  12/06/1999
SEC. PARTY: US BANK NATIONAL ASSOCIATION,   FILED WITH: SECRETARY OF
            MINNEAPOLIS, MN                             STATE/UCC DIVISION,
DEBTOR:     LAWSON ASSOCIATES INC                       PA
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This data is for informational purposes only and is not an official record.
Certified copies may be obtained from the Pennsylvania Department of State.

COLLATERAL: Specified Inventory and products - Specified Account(s) and products - Specified Contract rights and products - Specified General intangibles(s) and products - and OTHERS
FILING NO: 93148429 DATE FILED: 07/26/1993
TYPE: Original LATEST INFO RECEIVED: 08/04/1993
SEC. PARTY: FIRST BK, MINNEAPOLIS, MN FILED WITH: SECRETARY OF STATE/UCC DIVISION, CA
DEBTOR: LAWSON ASSOCIATES INC

This data is for informational purposes only, certification can only be obtained through the Sacramento Office of the California Secretary of State.

FILING NO: 93148429 DATE FILED: 04/23/1998
TYPE: Continuation LATEST INFO RECEIVED: 04/28/1998
SEC. PARTY: FIRST BK, MINNEAPOLIS, MN ORIG. UCC FILED: 07/26/1993
DEBTOR: LAWSON ASSOCIATES INC ORIG. FILING NO: 93148429
FILED WITH: SECRETARY OF STATE/UCC DIVISION, CA

This data is for informational purposes only, certification can only be obtained through the Sacramento Office of the California Secretary of State.

COLLATERAL: Negotiable instruments and proceeds - Inventory and proceeds - Account(s) and proceeds - Contract rights and proceeds - and OTHERS
FILING NO: 93148429 DATE FILED: 11/04/1999
TYPE: Amendment LATEST INFO RECEIVED: 11/22/1999
SEC. PARTY: U.S BANK NATIONAL ASSOCIATION, MINNEAPOLIS, MN ORIG. UCC FILED: 07/26/1993
DEBTOR: LAWSON ASSOCIATES INC ORIG. FILING NO: 93148429
FILED WITH: SECRETARY OF STATE/UCC DIVISION, CA

This data is for informational purposes only, certification can only be obtained through the Sacramento Office of the California Secretary of State.

COLLATERAL: Negotiable instruments - Textile goods - Fixtures - Equipment – And OTHERS
FILING NO: 1736336 DATE FILED: 02/07/1995
TYPE: Original LATEST INFO RECEIVED: 02/28/1995
SEC. PARTY: FBS BUSINESS FINANCE CORPORATION MINNEAPOLIS, MN FILED WITH: SECRETARY OF STATE/UCC DIVISION, MN
DEBTOR: LAWSON ASSOCIATES, INC.

COLLATERAL: Specified Negotiable instruments - Specified Equipment – Specified Computer equipment - Specified Communications equipment
FILING NO: 9505560987 DATE FILED: 02/17/1995
TYPE: Original LATEST INFO RECEIVED: 02/28/1995

SEC. PARTY: FBS BUSINESS FINANCE CORPORATIONFILED WITH: SECRETARY OF
MINNEAPOLIS, MN STATE/UCC DIVISION,
DEBTOR: LAWSON ASSOCIATES, INC. CA

This data is for informational purposes only, certification can only be obtained through the Sacramento Office of the California Secretary of State.

COLLATERAL: Inventory and proceeds - Account(s) and proceeds - Computer equipment and proceeds - Contract rights and proceeds – and OTHERS
FILING NO: 960103 7727 DATE FILED: 01/03/1996
TYPE: Original LATEST INFO RECEIVED: 04/04/1996
SEC. PARTY: FIRST BANK NATIONAL ASSOCIATION,FILED WITH: SECRETARY OF THE
MINNEAPOLIS, MN COMMONWEALTH/UCC
DEBTOR: LAWSON ASSOCIATES, INC. DIVISION, VA

COLLATERAL: Inventory including proceeds and products - Account(s) including proceeds and products - Contract rights including proceeds and products - Fixtures including proceeds and products - and OTHERS
FILING NO: 991104 7844 DATE FILED: 11/04/1999
TYPE: Amendment LATEST INFO RECEIVED: 12/06/1999
SEC. PARTY: U.S. BANK NATIONAL ASSOCIATION, ORIG. UCC FILED: 01/03/1996
MINNEAPOLIS, MN ORIG. FILING NO: 960103 7727
DEBTOR: LAWSON ASSOCIATES, INC. FILED WITH: SECRETARY OF THE
COMMONWEALTH/UCC
DIVISION, VA

COLLATERAL: Inventory including proceeds and products - Account(s) including proceeds and products - Contract rights including proceeds and products - General intangibles(s) including proceeds and products - and OTHERS
FILING NO: 960030009 DATE FILED: 01/03/1996
TYPE: Original LATEST INFO RECEIVED: 01/26/1996
SEC. PARTY: FIRST BANK NATIONAL ASSOCIATION,FILED WITH: SECRETARY OF
MINNEAPOLIS, MN STATE/UCC DIVISION,
DEBTOR: LAWSON ASSOCIATES, INC. WA

There are additional UCC's in D&B's file on this company available by contacting 1-800-223-1026.

The public record items contained in this report may have been paid, terminated, vacated or released prior to the date this report was printed.

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BANKING
US Bank, Minneapolis, MN.

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HISTORY
03/06/01

JAY COUGHLAN, PRES-CEO
MICHAEL MILBRANDT, EX V P-CORPORATE OPER
ROBERT G BARBIERI, EX VP-CFO
RICHARD LAWSON, CHM
SUSAN DUB, VICE PRESIDENT-FINANCE

DIRECTOR(S): THE OFFICER(S) and John Cerullo and Geoffrey Moore, William Lawson, Sr.

CORPORATE AND BUSINESS REGISTRATIONS REPORTED BY THE SECRETARY OF STATE OR OTHER OFFICIAL SOURCE AS OF 02/22/2001:

BUSINESS TYPE: Corporation - Profit
DATE INCORPORATED: 06/04/1975
STATE OF INCORP: Minnesota

Business started 1975 by Richard Lawson. 100% of capital stock is owned by the officers.

. ----STOCK OWNERSHIP---- .

Richard Lawson, William Lawson and John Cerullo hold equal majority interests. The balance of the stock is held by certain other officers.

. ----ACQUISITION---- .

On Jun 9 1988 the company acquired all the outstanding capital stock of Software Management Systems, Inc for $448,210 in cash and $498,380 payable to two former shareholders. Software Management Systems, Inc operated as a wholly-owned subsidiary of the company until Jun 30 1990 when it was merged into Lawson Associates, Inc. and now operates as a division.

. ----MANAGEMENT BACKGROUND---- .

JAY COUGHLAN. 1987-present, active here.

RICHARD LAWSON born 1944. 1965-75 employed in data processing and system design by Analyst International, Inc, Minneapolis, MN. Started here in 1975.

MICHAEL MILBRANDT born 1943. 1963-73 active in data processing for various firms in California. 1973-74 active as an analyst for Warner Hardware, Eagan, MN. 1974-79 active as a director of M.I.S., Saint Cloud, MN. Started here in 1979.

SUSAN DUB born 1964. Graduated from University of North Dakota with a degree in Accounting. 1988-93 Deloitte & Touche, Minneapolis, MN. Started here in 1993.

ROBERT G BARBIERI. Previously vice president of finance and CFO at Apogee Enterprises Inc.

WILLIAM LAWSON born 1942. 1963-70 system designer for Pizza Hut International, Wichita, KS. 1970-75 system designer for Analyst International, Inc, Minneapolis, MN. Started here in 1975.

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OPERATION

03/06/01 Application computer software development services (100%).
ADDITIONAL TELEPHONE NUMBER(S): Facsimile (Fax) 651 767-7141, Toll Free 800 477-1357, web: www.lawson.com.
Terms of sale are 50% down and 50% due 30 days after delivery. Has 2,000 account(s). Sells to commercial firms. Territory : International.
Nonseasonal.
EMPLOYEES: 1,122 which includes officer(s). 800 employed here.
FACILITIES: Leases 54,000 sq. ft. in six story brick building.
LOCATION: Suburban business section on well traveled street.
BRANCHES: This business has multiple branches, detailed branch/division information is available in Dun & Bradstreet's linkage or family tree products.
03-19(10N /113) 99999 072114114 H

FULL DISPLAY COMPLETE

** End of BIR **

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Refer comments or questions to customer service.

Dun & Bradstreet Report—Oracle

ORACLE CORPORATION
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IN DATE Statement Date: NOV 30 2000

DUNS: 14-470-9193	DATE PRINTED	SUMMARY
ORACLE CORPORATION	MAR 19 2001	RATING 5A2
500 ORACLE PARKWAY (MAIL STOP 659903)	SOFTWARE SYSTEMS,	STARTED 1977
	CONSULTING &	SALES F $10,130,128,000
AND BRANCH(ES) OR DIVISION(S)	EDUCATION SERVICES	WORTH F $6,461,463,000
REDWOOD CITY CA 94065		EMPLOYS 41,290
TEL: 650 506-7000	SIC NOS.	(2,300 HERE)
	73 72 73 79 82 43	HISTORY CLEAR
		FINANCING SECURED
		FINANCIAL CONDITION GOOD

CHIEF EXECUTIVE: LAWRENCE J ELLISON, CHB-CEO

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SPECIAL EVENTS

03/16/01 EARNINGS UPDATE: According to published reports, comparative operating results for the 9 months ended February 28, 2001: Revenue of $7,595,788,000, Net Income of $1,706,202,000 and Earnings Per Share of $0.29; compared to Revenue of $5,755,818,000, Net Income Of $1,384,396,000 and Earnings Per Share of $0.23 for the comparable period in the prior year.

12/21/00 FUNDING/INVESTMENT: According to published reports, eConnections Inc, El Monte, CA, announced that Oracle Corporation, Redwood City, CA, has made an investment in eConnections.

12/19/00 EARNINGS UPDATE: According to published reports, comparative operating results for the 6 months ended November 30, 2000: Revenue of $4,921,421,000, Net Income of $1,123,489,000 and Earnings Per Share of $0.19; compared to Revenue of $4,306,400,000, Net Income Of $621,220,000 and Earnings Per Share of $0.10 for the comparable Period in the prior year.

12/18/00 EARNINGS UPDATE: According to published reports, comparative operating results for the 6 months ended November 30, 2000: Revenue of $4,921,421,000, Net Income of $1,123,489,000 and Earnings Per Share of $0.19; compared to Revenue of $4,306,400,000, Net Income Of $621,220,000 and Earnings Per Share of $0.10 for the comparable Period in the prior year.

11/21/00 OFFICER CHANGE: According to published reports, Gary Bloom,

executive vice president, has left the company to pursue other interests.

10/30/00 SALE OF ASSET: According to published reports, Oracle Corporation (Redwood Shores, CA) announced the divestiture of Certain assets of its Interactive Television Division to nCUBE Corporation (Foster City, CA) and to Thirdspace Living Limited. In exchange for the transfer of technology and other assets from its iTV Division, Oracle received minority equity stakes in both nCUBE and Thirdspace. Pursuant to the agreement, nCUBE and Thirdspace will jointly own the intellectual property. Alcatel contributed cash and assets from its iTV Division to thirdspace simultaneously with Oracle's contribution, and Alcatel also received a minority stake in Thirdspace.

10/27/00 OTHER SPECIAL EVENT: According to published reports, Oracle Corporation (Redwood City, CA) and Agilent Technologies Inc (Palo Alto, CA) have signed a strategic agreement that paves the way for Agilent to optimize its global operations and further enhance Customer responsiveness through the use of Oracle's best-in-class tools.

10/11/00 EARNINGS UPDATE: As previously reported, comparative operating results for the 3 months ended August 31, 2000: Revenue of $2,261,875,000, Net Income of $500,677,000 and Earnings Per Share of $0.17; compared to Revenue of $1,984,517,000, Net Income of $236,736,000 and Earnings Per Share of $0.08 for the comparable period in the prior year.

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* * * CUSTOMER SERVICE * * *

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If you need any additional information or have any questions, please call the D&B Online Customer Service Center at 1-800-223-1026.

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* * * SUMMARY ANALYSIS * * *

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The Summary Analysis section reflects information in D&B's file as of March 19, 2001.

RATING SUMMARY . . . .

The "5A" portion of the Rating (the Rating Classification) indicates that the company has a worth in excess of $50 million. The "2" on the right (Composite Credit Appraisal) indicates an overall "good" credit appraisal. This credit appraisal was assigned because of D&B's overall assessment of the company's financial, payment, and its historical information.

Below is an overview of the company's D&B Rating(s) since 01/01/91:

RATING	DATE APPLIED
5A2	01/01/91

* * * PAYMENT SUMMARY * * *

The Payment Summary section reflects payment information in D&B's file as of the date of this report.

The PAYDEX for this company is 74.

This PAYDEX score indicates that payments to suppliers average 9 days beyond terms, weighted by dollar amounts. When dollar amounts are not considered, approximately 52% of the company's payments are within terms.

Below is an overview of the company's dollar-weighted payments, segmented by its suppliers' primary industries:

	TOTAL RCV'D	TOTAL DOLLAR AMOUNTS	LARGEST HIGH CREDIT	% W/IN TERMS	DAYS SLOW <31	31-60	61-90	91+
	#	$	$	%	%	%	%	%
Total in D&B's file	254	24,014,850	15,000,000					
Top 10 Industries:								
1 Telephone communictns	21	619,150	500,000	96	2	2	-	-
2 Help supply service	18	138,500	30,000	19	22	25	29	5
3 Electric services	13	460,800	400,000	95	4	1	-	-
4 Arrange cargo transpt	13	154,300	55,000	48	31	2	13	6
5 Mfg computers	10	18,535,000	15,000,000	58	42	-	-	-
6 Air courier service	8	408,050	200,000	63	-	37	-	-
7 Whol office equipment	7	265,550	250,000	2	49	47	2	-
8 Whol electronic parts	6	1,198,500	500,000	100	-	-	-	-
9 Whol office supplies	4	700,850	700,000	100	-	-	-	-
10 Computer system desgn	3	753,250	750,000	50	50	-	-	-
11 OTHER INDUSTRIES	129	743,900	80,000	48	16	20	11	5

Other Payment Categories:

Cash experiences	1	1,000	1,000
Payment record unknown	18	32,750	15,000
Unfavorable comments	1	2,500	2,500
Placed for collection			
with D&B	1	750	
other	1	N/A	

The highest "Now Owes" on file is $8,000,000
The highest "Past Due" on file is $1,000,000

Dun & Bradstreet has 254 payment experiences in its file for this company. For your convenience, we have displayed 80 representative experiences in the

PAYMENTS section.

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PAYMENTS (Amounts may be rounded to nearest figure in prescribed ranges)

Antic - Anticipated (Payments received prior to date of invoice)
Disc - Discounted (Payments received within trade discount period)
Ppt - Prompt (Payments received within terms granted)

REPORTED	PAYING RECORD	HIGH CREDIT	NOW OWES	PAST DUE	SELLING TERMS	LAST SALE WITHIN
03/01	Ppt	50	-0-	-0-		6-12 Mos
	Ppt-Slow 30	55000	45000	15000	N30	1 Mo
	Ppt-Slow 90	1000	1000	1000	N30	2-3 Mos
	Slow 30-60	250	50	50		2-3 Mos
	Slow 90		-0-	-0-	N30	2-3 Mos
	Slow 120	250	50	50		4-5 Mos
	(007)	500	500	500		2-3 Mos
	Placed for collection.					
	Cash in advance					
02/01	Ppt	500000+	-0-	-0-	Spec agreement	6-12 Mos
	Ppt	500000	200000	-0-		1 Mo
	Ppt	400000	300000	-0-	N30	1 Mo
	Ppt	200000	-0-	-0-	Spec agreement	6-12 Mos
	Ppt	95000	-0-	-0-	Spec agreement	6-12 Mos
	Ppt	25000	-0-	-0-	N30	1 Mo
	Ppt	20000	-0-	-0-		4-5 Mos
	Ppt	15000	-0-	-0-		2-3 Mos
	Ppt	15000	15000			4-5 Mos
	Ppt	15000	2500	-0-		1 Mo
	Ppt	7500	-0-	-0-		6-12 Mos
	Ppt	2500	-0-	-0-		4-5 Mos
	Ppt	2500	500	-0-		1 Mo
	Ppt	2500	-0-	-0-	Spec agreement	2-3 Mos
	Ppt	2500	-0-	-0-		4-5 Mos
	Ppt	1000	750	-0-		1 Mo
	Ppt	1000	500	-0-		1 Mo
	Ppt	1000	500	-0-		1 Mo
	Ppt	750	-0-	-0-		1 Mo
	Ppt	750	-0-	-0-		6-12 Mos
	Ppt	750	500	-0-		
	Ppt	500	500	-0-	N30	1 Mo
	Ppt	500	500	-0-	Spec agreement	1 Mo
	Ppt	250	250	-0-		1 Mo
	Ppt	100	-0-	-0-		2-3 Mos
	Ppt	100	50	-0-		
	Ppt	100	-0-	-0-	N30	6-12 Mos
	Ppt	100	100	-0-		1 Mo
	Ppt	50	50	-0-	N30	1 Mo
	Ppt	50	50	-0-		

	Ppt	50	50	-0-		
	Ppt	50	-0-	-0-	N30	6-12 Mos
	Ppt	50	50	-0-		
	Ppt	50	50	-0-	N30	1 Mo
	Ppt-Slow 30	400000	40000	40000		1 Mo
	Ppt-Slow 30	20000	50	-0-	N30	1 Mo
	Ppt-Slow 30	15000	-0-	-0-		4-5 Mos
	Ppt-Slow 30	5000	2500	500		1 Mo
	Ppt-Slow 30	2500	2500	1000		1 Mo
	Ppt-Slow 30	1000	1000	-0-		1 Mo
	Ppt-Slow 60	20000	20000	500		1 Mo
	Ppt-Slow 60	7500	7500	5000		1 Mo
	Ppt-Slow 60	2500	-0-	-0-	N30	4-5 Mos
	Ppt-Slow 60	2500	-0-	-0-		6-12 Mos
	Slow	2500	2500			1 Mo
	Slow	1000	1000			1 Mo
	Slow	1000	1000			1 Mo
	Slow	750	750			1 Mo
	Slow 30	20000	20000			4-5 Mos
	Slow 30	10000	500	500		1 Mo
	Slow 30	2500	-0-	-0-		6-12 Mos
	Slow 30	2500	-0-	-0-	N30	1 Mo
	Slow 30	1000	-0-	-0-	N30	4-5 Mos
	Slow 30	100	-0-	-0-		6-12 Mos
	Slow 35	10000	-0-	-0-		1 Mo
	Slow 30-60	5000	5000	5000	N30	1 Mo
	Slow 60	5000	-0-	-0-		4-5 Mos
	Slow 30-60	1000	1000	1000		1 Mo
	Slow 30-60	1000	1000	1000		1 Mo
	Slow 30-60	1000	1000	1000		1 Mo
	Slow 60	750	-0-	-0-	N30	2-3 Mos
	Slow 70	750	-0-	-0-		6-12 Mos
	Slow 30-90	20000	7500	7500	N30	1 Mo
	Slow 90	10000	-0-	-0-		6-12 Mos
	Slow 30-90+	2500	1000	1000	N30	6-12 Mos
	Slow 30-120	15000	-0-	-0-		6-12 Mos
	Slow 160		-0-			4-5 Mos
	Slow 210	5000	-0-	-0-		6-12 Mos
	Slow 220	7500	-0-	-0-		2-3 Mos
01/01	Ppt-Slow 90	10000	7500	5000		1 Mo
	Ppt-Slow 90	5000	5000	2500	N30	1 Mo
	Slow 120+	2500	2500	2500		
	Slow 120+	1000	1000	1000		

* Accounts are sometimes placed for collection even though the existence or amount of the debt is disputed.

* Payment experiences reflect how bills are met in relation to the terms granted. In some instances payment beyond terms can be the result of disputes over merchandise, skipped invoices etc.

* Each experience shown represents a separate account reported by a supplier. Updated trade experiences replace those previously reported.

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STATEMENT UPDATE
01/19/01 Interim Consolidated statement dated NOV 30 2000:

Cash	$ 4,165,690,000	Accts Pay	$ 282,738,000
Accts Rec	1,935,767,000	Notes Pay	2,596,000
Mktble Securities	190,475,000	Accruals	1,200,894,000
Prepaid	821,156,000	Taxes	627,588,000
		Customer Advances & Unearned Reven	1,053,809,000
Curr Assets	7,113,088,000	Curr Liabs	3,167,625,000
Fixt & Equip	941,793,000	Long Term Debt	300,802,000
Intangible & Other Assets	838,886,000	Deferred Income Taxes	337,620,000
Investments-Other	30,000,000	L.T. Liab-Other	191,257,000
		COMMON STOCK	3,949,335,000
		ACCUM OTHER COMPREHENSIVE LOSS	(85,392,000)
		RETAINED EARNINGS	1,062,520,000
Total Assets	8,923,767,000	Total	8,923,767,000

From JUN 01 2000 to NOV 30 2000 sales $4,921,421,000; gross profit $4,921,421,000; operating expenses $3,317,379,000. Operating income $1,604,042,000; other income $138,082,000; net income before taxes $1,742,124,000; Federal income tax $618,635,000; net income $1,123,489,000.

Statement received by mail JAN 16 2001. Statement obtained in outside quarters. Prepared from books without audit.

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Accounts receivable shown net less $304,793,000 allowance. Statements item explanations were not provided.

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FINANCE
10/11/00

	Fiscal Consolidated May 31 1998	Fiscal Consolidated May 31 1999	Fiscal Consolidated May 31 2000
Curr Assets	4,323,050,000	5,447,274,000	10,883,334,000
Curr Liabs	2,484,165,000	3,046,423,000	5,862,238,000
Current Ratio	1.74	1.79	1.86
Working Capital	1,838,885,000	2,400,851,000	5,021,096,000
Other Assets	1,495,961,000	1,812,380,000	2,193,445,000
Noncurrent Liabs	377,288,000	517,964,000	753,078,000
Worth	2,957,558,000	3,695,267,000	6,461,463,000
Sales	7,143,866,000	8,827,252,000	10,130,128,000
Research & Develop	719,143,000	841,406,000	1,009,882,000
Other Op Expenses	5,180,523,000	3,048,817,000	4,107,289,000
Capital Expend	328,358,000	346,592,000	263,443,000

Deprec & Amortiz	328,563,000	319,823,000	314,315,000
Net Profit (Loss)	813,695,000	1,289,758,000	6,296,803,000
Cash Dividends	3,266,000	4,805,000	14,161,000

Fiscal Consolidated statement dated MAY 31 2000:

Cash	$ 7,429,206,000	Accts Pay	$ 287,495,000
Accts Rec	2,533,964,000	Notes Pay	2,691,000
Mktble Securities	332,792,000	Accruals	1,451,490,000
Other Receivables	256,203,000	Taxes	2,987,080,000
Prepaid	331,169,000	Customer Advances And Unearned Rev	1,133,482,000
Curr Assets	10,883,334,000	Curr Liabs	5,862,238,000
Fixt & Equip	934,455,000	Long Term Debt	300,770,000
Intangible And Other Assets	1,148,990,000	Deferred Income Taxes	266,130,000
Investments-Other	110,000,000	L.T. Liab-Other	186,178,000
		COMMON STOCK	3,112,126,000
		ACCUMULATED OTHER COMPREHENSIVE INC	5,480,000
		RETAINED EARNINGS	3,343,857,000
Total Assets	13,076,779,000	Total	13,076,779,000

From JUN 01 1999 to MAY 31 2000 annual sales $10,130,128,000; cost of goods sold $2,942,679,000. Gross profit $7,187,449,000; operating expenses $4,107,289,000. Operating income $3,080,160,000; other income $7,078,859,000; other expenses $35,585,000; net income before taxes $10,123,434,000; Federal income tax $3,826,631,000. Net income $6,296,803,000. Retained earnings at start $2,266,915,000. Net income $6,296,803,000; dividends $14,161,000; other deductions $5,205,700,000; retained earnings at end $3,343,857,000.

Statement received by mail AUG 28 2000. Prepared from statement(s) by Accountant: Arthur Andersen, LLP.

ACCOUNTANTS OPINION: A review of the accountant's opinion indicates that the financial statement meets generally accepted accounting principles and the audit contains no qualifications.

--0--

Accounts receivable shown net less $272,203,000 allowance. Fixed assets shown net less $1,190,575,000 depreciation.

. ..... BALANCE SHEET EXPLANATIONS ..... .

The net worth of this company includes intangibles.

On OCT 11 2000 the Company, submitted the above figures.

.....CASH FLOWS.....

Working capital increased in fiscal 2000 and fiscal 1999 over The corresponding prior year periods, due primarily to increased cash flow from operations and cash received from the sale of Oracle Japan and Liberate Common Stock, partially offset by cash used for The repurchase of the Company's Common Stock and cash used for other long-term investing activities. The Company generated higher

positive cash flows from operations in fiscal 2000 and fiscal 1999 over the corresponding prior year periods due to increased operating profitability. Cash provided by investing activities increased in fiscal 2000 as compared to the corresponding prior year period primarily due to cash generated from the sale of Oracle Japan and Liberate Common Stock, as well as changes in the levels and Maturities of cash investments and lower investments in capital expenditures. The Company expects to continue to invest in capital and other assets to support its growth. The Company anticipates that current cash balances, as well as anticipated cash flows from operations, will be sufficient to meet its working capital and capital expenditure needs at least through May 31, 2001.

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PUBLIC FILINGS

The following data is for information purposes only and is not the official record. Certified copies can only be obtained from the official source.

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* * * JUDGMENT(S) * * *

DOCKET NO.: 96056727B
JDGMT TYPE: Judgment
AGAINST: $4,312-ORACLE CORP, BELLEVUE, WA
IN FAVOR OF: BONDED ADJUST
WHERE FILED: SPOKANE COUNTY DISTRICT COURT, SPOKANE, WA
STATUS: Unsatisfied
DATE STATUS ATTAINED: 01/26/2001
DATE ENTERED: 01/26/2001
LATEST INFO RECEIVED: 02/01/2001

CASE NO.: 97V23085
JDGMT AWARD: $3,921
JDGMT TYPE: Judgment
AGAINST: ORACLE CORPORATION, EL SEGUNDO, CA
IN FAVOR OF: JENCHE M CHANG
WHERE FILED: LOS ANGELES COUNTY SMALL CLAIMS COURT/VAN NUYS BRANCH, VAN NUYS CA
STATUS: Unsatisfied
DATE STATUS ATTAINED: 11/24/1997
DATE ENTERED: 11/24/1997
LATEST INFO COLLECTED: 07/23/1999

If it is indicated that there are defendants other than the report subject, the lawsuit may be an action to clear title to property and does not necessarily imply a claim for money against the subject.

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* * * SUIT(S) * * *

DOCKET/CASE: 254004
PLAINTIFF: MOORE NORTH AMERICA INC
DEFENDANT: ORACLE CORPORATION, AUSTIN, TX
STATUS: Pending
DATE STATUS ATTAINED: 11/08/2000

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CAUSE:       AGREEMENT/CONTRACT              DATE FILED:            11/08/2000
WHERE FILED: TRAVIS COUNTY - COUNTY AT LAW   LATEST INFO COLLECTED: 12/18/2000
             COURT, AUSTIN, TX
-------------------------------------------------------------------------------
DOCKET NO.: 98-22650
PLAINTIFF:   ANITA BENCIVENGO                STATUS: Pending
             STEPHEN BENCIVENGO              DATE STATUS ATTAINED:  12/22/1998
DEFENDANT:   ORACLE CORP., BERWYN, PA        DATE FILED:            12/22/1998
             and OTHERS                      LATEST INFO RECEIVED:  02/02/1999
WHERE FILED: MONTGOMERY COUNTY PROTHONOTARY,
             NORRISTOWN, PA
-------------------------------------------------------------------------------
DOCKET NO.: 4:98CV952(CAS)
PLAINTIFF:   MICHAELENE HART                 STATUS: Pending
DEFENDANT:   ORACLE CORPORATION              DATE STATUS ATTAINED:  06/02/1998
WHERE FILED: U S DISTRICT COURT, SAINT LOUISDATE FILED:             06/02/1998
             MO                              LATEST INFO COLLECTED: 06/11/1998
-------------------------------------------------------------------------------
CASE NO.: 98M1 101435
SUIT AMOUNT: $3,750                          STATUS: Pending
PLAINTIFF:   BARLEBEN; STEVEN E              DATE STATUS ATTAINED:  01/09/1998
DEFENDANT:   ORACLE CORPORATION, CHICAGO, ILDATE FILED:             01/09/1998
WHERE FILED: COOK COUNTY CIRCUIT COURT/1ST   LATEST INFO RECEIVED:  01/20/1998
             MUNICIPAL DIVISION, CHICAGO, IL
-------------------------------------------------------------------------------
CASE NO.: 97V23085
SUIT AMOUNT: $3,921                          STATUS: Judgment for plaintiff
PLAINTIFF:   JENCHE M CHANG                  DATE STATUS ATTAINED:  11/24/1997
DEFENDANT:   ORACLE CORPORATION, EL SEGUNDO, DATE FILED:            10/15/1997
             CA                              LATEST INFO COLLECTED: 07/13/1999
CAUSE:       Debt, non-payment
WHERE FILED: LOS ANGELES COUNTY SMALL CLAIMS
             COURT/VAN NUYS BRANCH, VAN NUYS
             CA
-------------------------------------------------------------------------------
CASE NO.: 95M1 134037
SUIT AMOUNT: $743                            STATUS: Pending
PLAINTIFF:   O'TOOLE; JAMES G                DATE STATUS ATTAINED:  06/15/1995
DEFENDANT:   ORACLE CORP, CHICAGO, IL        DATE FILED:            06/15/1995
WHERE FILED: COOK COUNTY CIRCUIT COURT/1ST   LATEST INFO RECEIVED:  06/20/1995
             MUNICIPAL DIVISION, CHICAGO, IL
-------------------------------------------------------------------------------
DOCKET NO.: 135073
SUIT AMOUNT: $72,303                         STATUS: Pending
PLAINTIFF:   HOWARD M FRANKEL                DATE STATUS ATTAINED:  04/14/1995
DEFENDANT:   ORACLE CORPORATION, BETHESDA,   DATE FILED:            04/14/1995
             MD                              LATEST INFO RECEIVED:  05/01/1995
WHERE FILED: MONTGOMERY COUNTY CIRCUIT COURT
             ROCKVILLE, MD
-------------------------------------------------------------------------------
DOCKET NO.: 280318
SUIT AMOUNT: $97,493                         STATUS: Pending
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PLAINTIFF:   MEL ARNOLD                        DATE STATUS ATTAINED:  11/15/1994
DEFENDANT:   ORACLE CORPORATION, CLEVELAND,    DATE FILED:            11/15/1994
             OH                                LATEST INFO RECEIVED:  12/13/1994
             and OTHERS
WHERE FILED: CUYAHOGA COUNTY COMMON PLEAS
             COURT, CLEVELAND, OH
-------------------------------------------------------------------------------
                            * * * LIEN(S) * * *
-------------------------------------------------------------------------------
         A lienholder can file the same lien in more than one filing
         location.  The appearance of multiple liens filed by the
         same lienholder against a debtor may be indicative of such
         an occurrence.
-------------------------------------------------------------------------------
CASE NO.: 22000-568
AMOUNT:   $113                                 STATUS: Open
TYPE:     State Tax                            DATE STATUS ATTAINED:  11/09/2000
FILED BY: STATE OF MICHIGAN                    DATE FILED:            11/09/2000
AGAINST:  ORACLE CORP, TROY, MI                LATEST INFO RECEIVED:  01/10/2001
WHERE FILED: OAKLAND COUNTY REGISTER OF            DEEDS, PONTIAC, MI
-------------------------------------------------------------------------------
BOOK/PAGE: 452/3
AMOUNT:   $1,518                               STATUS: Open
TYPE:     State Tax                            DATE STATUS ATTAINED:  10/19/2000
FILED BY: ST OF SC                             DATE FILED:            10/19/2000
AGAINST:  ORACLE CORP, BELMONT, CA             LATEST INFO COLLECTED: 11/21/2000
WHERE FILED: RICHLAND COUNTY REGISTER OF           DEEDS, COLUMBIA, SC
-------------------------------------------------------------------------------
DOCKET NO.: 03260054
AMOUNT:   $1,575                               STATUS: Open
TYPE:     State Tax                            DATE STATUS ATTAINED:  04/21/1999
FILED BY: STATE OF INDIANA                     DATE FILED:            04/21/1999
AGAINST:  ORACLE CORPORATION                   LATEST INFO RECEIVED:  06/22/1999
WHERE FILED: MARION COUNTY CIRCUIT COURT,
             INDIANAPOLIS, IN
-------------------------------------------------------------------------------
CASE NO.: 9917740
AMOUNT:   $389 Sales and use                   STATUS: Open
TYPE:     State Tax                            DATE STATUS ATTAINED:  03/02/1999
FILED BY: STATE OF SOUTH CAROLINA              DATE FILED:            03/02/1999
AGAINST:  ORACLE CORP, BELMONT, CA             LATEST INFO RECEIVED:  10/19/1999
WHERE FILED: RICHLAND COUNTY REGISTER OF
             DEEDS, COLUMBIA, SC
-------------------------------------------------------------------------------
FILING NO.: 51509/2400
AMOUNT:   $863                                 STATUS: Open
TYPE:     State Tax                            DATE STATUS ATTAINED:  10/06/1997
FILED BY: STATE OF TEXAS                       DATE FILED:            10/06/1997
AGAINST:  ORACLE CORPORATION                   LATEST INFO RECEIVED:  10/16/1997
WHERE FILED: HARRIS COUNTY RECORDERS OFFICE,
             HOUSTON, TX
-------------------------------------------------------------------------------
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FILING NO.: 97-093895
AMOUNT:   $1,065                              STATUS: Open
TYPE:     Mechanics                           DATE STATUS ATTAINED:  08/04/1997
FILED BY: VON EUW AND L.J. NUNES TRUCKING     DATE FILED:            08/04/1997
          INC.                                LATEST INFO COLLECTED: 11/18/1997
AGAINST:  ORACLE CORPORATION
WHERE FILED: SAN MATEO COUNTY RECORDERS
             OFFICE, REDWOOD CITY, CA
--------------------------------------------------------------------------------
FILING NO.: 97-005075
AMOUNT:   $17,028                             STATUS: Open
TYPE:     Mechanics                           DATE STATUS ATTAINED:  01/14/1997
FILED BY: A & B PAINTING, INC.                DATE FILED:            01/14/1997
AGAINST:  ORACLE CORPORATION                  LATEST INFO COLLECTED: 06/10/1997
WHERE FILED: SAN MATEO COUNTY RECORDERS
             OFFICE, REDWOOD CITY, CA
--------------------------------------------------------------------------------
                           * * * UCC FILING(S) * * *
--------------------------------------------------------------------------------
COLLATERAL: Inventory and proceeds
FILING NO:  95347022                          DATE FILED:            10/26/1995
TYPE:       Original                          LATEST INFO RECEIVED:  11/28/1995
SEC. PARTY: PITNEY BOWES CREDIT, CORPORATIONFILED WITH: SECRETARY OF THE
            NORWALK, CT                                 COMMONWEALTH/UCC
DEBTOR:     ORACLE, CORPORATION, WALTHAM, MA            DIVISION, MA
--------------------------------------------------------------------------------
COLLATERAL: Accounts receivable and proceeds - Chattel paper and proceeds -
            General intangibles(s) and proceeds
FILING NO:  9515760146                        DATE FILED:            06/01/1995
TYPE:       Original                          LATEST INFO RECEIVED:  06/14/1995
SEC. PARTY: HELLER FINANCIAL INC., OAKBROOK FILED WITH: SECRETARY OF
            TERRACE, IL                                 STATE/UCC DIVISION,
DEBTOR:     ORACLE CORPORATION                          CA

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
--------------------------------------------------------------------------------
FILING NO:  9515760146                        DATE FILED:            06/10/1998
TYPE:       Termination                       LATEST INFO RECEIVED:  06/16/1998
SEC. PARTY: HELLER FINANCIAL INC., OAKBROOK ORIG. UCC FILED: 06/01/1995
            TERRACE, IL                     ORIG. FILING NO: 9515760146
DEBTOR:     ORACLE CORPORATION              FILED WITH: SECRETARY OF
                                                        STATE/UCC DIVISION,
                                                        CA

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
--------------------------------------------------------------------------------
COLLATERAL: Specified Accounts receivable and proceeds - Specified Account(s)
            and proceeds - Specified General intangibles(s) and proceeds
FILING NO:  91210979                          DATE FILED:            09/30/1991
TYPE:       Original                          LATEST INFO RECEIVED:  11/04/1991
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SEC. PARTY: FIRST NATIONAL BANK OF BOSTON,  FILED WITH: SECRETARY OF
            THE, BOSTON, MA                             STATE/UCC DIVISION,
DEBTOR:     ORACLE SYSTEMS CORP/ORACLE                  CA
            CREDIT CORP
            and OTHERS

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
-------------------------------------------------------------------------------
COLLATERAL: Proceeds - Equipment
FILING NO:  AN92322                         DATE FILED:            08/28/1997
TYPE:       Original                        LATEST INFO RECEIVED:  10/09/1997
SEC. PARTY: HEWLETT-PACKARD COMPANY, ATLANTAFILED WITH: SECRETARY OF
            GA                                          STATE/UCC DIVISION,
DEBTOR:     ORACLE CORPORATION, CLEVELAND,              OH
            OH
-------------------------------------------------------------------------------
COLLATERAL: Products and proceeds - Equipment
FILING NO:  2143943                         DATE FILED:            08/28/1997
TYPE:       Original                        LATEST INFO RECEIVED:  10/06/1997
SEC. PARTY: HEWLETT-PACKARD COMPANY FINANCE FILED WITH: SECRETARY OF
            & REMARKETING DIVISION, ATLANTA,            STATE/UCC DIVISION,
            GA                                          IN
DEBTOR:     ORACLE CORPORATION, INDIANAPOLIS
            IN
-------------------------------------------------------------------------------
COLLATERAL: Proceeds - Machinery - Equipment
FILING NO:  972073684                       DATE FILED:            08/28/1997
TYPE:       Original                        LATEST INFO RECEIVED:  09/30/1997
SEC. PARTY: HEWLETT PACKARD CO, ATLANTA, GA FILED WITH: SECRETARY OF
DEBTOR:     ORACLE CORP, ENGLEWOOD, CO                  STATE/UCC DIVISION,
                                                        CO
-------------------------------------------------------------------------------
COLLATERAL: Products - Proceeds - SPECIFIC EQUIPMENT,LEASES
FILING NO:  AM28136                         DATE FILED:            11/09/1995
TYPE:       Original                        LATEST INFO RECEIVED:  11/29/1995
SEC. PARTY: HEWLETT-PACKARD COMPANY,        FILED WITH: SECRETARY OF
            SUNNYVALE, CA                               STATE/UCC DIVISION,
DEBTOR:     ORACLE CORPORATION, CINCINNATI,             OH
            OH
            and OTHERS
-------------------------------------------------------------------------------
COLLATERAL: Communications equipment and proceeds - Computer equipment and
            proceeds - Equipment and proceeds
FILING NO:  9700760041                      DATE FILED:            01/03/1997
TYPE:       Original                        LATEST INFO RECEIVED:  01/16/1997
SEC. PARTY: HEWLETT-PACKARD COMPANY FINANCE FILED WITH: SECRETARY OF
            & REMARKETING DIVISION, MOUNTAIN            STATE/UCC DIVISION,
            VIEW, CA                                    CA
DEBTOR:     ORACLE CORPORATION

This data is for informational purposes only, certification can only be
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obtained through the Sacramento Office of the California Secretary of State.

COLLATERAL: Communications equipment and products - Computer equipment and products - Leased Equipment and products
FILING NO: 1743173 DATE FILED: 03/07/1995
TYPE: Original LATEST INFO RECEIVED: 04/03/1995
SEC. PARTY: HEWLETT-PACKARD COMPANY, SUNNYVALE, CA FILED WITH: SECRETARY OF STATE/UCC DIVISION, MN
DEBTOR: ORACLE CORP.
ORACLE CORP., MINNEAPOLIS, MN
ORACLE CORP., BETHESDA, MD
ORACLE CORP., CORAOPOLIS, PA
ORACLE CORP., SEVEN HILLS, OH

COLLATERAL: Equipment
FILING NO: 29621224 DATE FILED: 11/23/1998
TYPE: Original LATEST INFO RECEIVED: 01/06/1999
SEC. PARTY: SUN MICROSYSTEMS FINANCE, GOLDEN VALLEY, MN FILED WITH: SECRETARY OF STATE/UCC DIVISION, PA
DEBTOR: ORACLE CORPORATION

This data is for informational purposes only and is not an official record. Certified copies may be obtained from the Pennsylvania Department of State.

There are additional UCC's in D&B's file on this company available by contacting 1-800-223-1026.

The public record items contained in this report may have been paid, terminated, vacated or released prior to the date this report was printed.

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BANKING

OCT 2000: At May 31, 2000 and 1999, the Company had unsecured short-term borrowings from banks which were payable on demand in the amounts of $2,371,000 and $3,092,000, respectively.

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HISTORY
03/16/01

LAWRENCE J ELLISON, CHB-CEO+ JEFFREY O HENLEY, EX V PRES & CFO+
DANIEL COOPERMAN, SR V PRES-GEN COUNSEL-SEC
DIRECTOR(S): The officers identified by (+) and Donald L Lucas, Michael J Boskin, Jeffrey Berg, Jack Kemp, Richard A McGinn and Kay Koplovitz.

The Corporate Details provided below may have been submitted by the management of the subject business and may not have been verified with the government agency which records such data.

BUSINESS TYPE: Corporation - Profit
DATE INCORPORATED: 10/29/1986
STATE OF INCORP: Delaware

AUTH SHARES-COMMON: 2,000,000,000
PAR VALUE-COMMON: $0.0100

AUTH SHARES-PREF: 1,000,000
PAR VALUE-PREF: $0.0100

The company's reincorporation in Delaware was completed on Mar 12 1987. The Delaware corporation succeeded a California corporation chartered Oct 15 1982.

OUTSTANDING CAPITAL STOCK: At May 31 2000, there were 2,807,572,142 shares of common stock outstanding.

INTERNET ADDRESS: http://www.oracle.com/.

CONTROL: This is a publicly held company. The company's stock is traded in the over-the-counter and the NASDAQ National Market System under the NASDAQ symbol "ORCL". As of May 31 2000, there Were approximately 18,873 stockholders of record. As of Aug 21 2000, the executive officers and directors as a group beneficially owned 25.16%, with Lawrence J Ellison owning 24.16%.

Effective May 31 1995, the company's primary wholly owned operating subsidiary, Oracle Corporation (a California corporation) was merged into Oracle Systems Corporation (the present Delaware corporation), which subsequently changed its name to Oracle Corporation.

OTHER RECENT EVENT: In fiscal 1997, the company became a 74% limited partner in III Centrum Associates Limited Partnership, a real estate limited partnership which owns one of the buildings leased by the company at its headquarters site, by making a capital contribution of $2,500,000. Additionally, in fiscal 1997, the company loaned the partnership $60,400,000 in the form of a promissory note secured by a deed of trust which was used to pay off a mortgage on a building owned by the partnership. The company has the right to leave the partnership on Jan 1 2000, and to take title to the building without making further capital contributions.

Business started 1977.

ELLISON born 1944. 1962-65 attended University of Illinois; 1965 University of Chicago, BS. 1967-71 Amdahl, Inc, Santa Clara, CA, systems architect. 1972-77 Omex Corporation, Santa Clara, CA, president-systems division. Active here since 1977; 1978 president.

HENLEY born 1945. Joined the company is Mar 1991 as Executive Vice President and Chief Financial Officer. From Aug 1986 to Feb 1991, Executive Vice President and Chief Financial Officer of Pacific Holding Company. Prior to Aug 1986, held various finance positions at Saga Corporation, as well as, Memorex Corporation and Fairchild Camera and Instrument Corporation. Holds a bachelor's degree in economics from the University of California at Santa

Barbara and an MBA in finance from UCLA.

COOPERMAN born 1951. Has been senior vice president, general counsel and secretary of the company since Feb 1997. Prior to joining Oracle, had been associated with the law firm of McCutchen, Doyle, Brown and Enersen since Oct 1977, and had served there as a Partner since Jun 1983. Graduated from Dartmouth College in 1972 with a degree in economics. Received MBA and JD degrees from Stanford graduate School of Business and School of Law in 1976.

LUCAS, private venture capitalist.

BOSKIN, professor of economics at Stanford University and principal of Boskin & Co, a consulting firm.

BERG, chairman and CEO, international creative management.

KEMP, co-director, Empower America.

MCGINN, chairman and CEO, Lucent Technologies In.

KOPLOVITZ, CEO of WorkingWoman Network, Inc

ACQUISITIONS:

In Jan 2000, Oracle Corp completed the acquisition of Carleton Corp, Hopkins, MN, in a cash transaction valued at approximately $8.7 million.

In Apr 1999, Oracle Corp, Redwood City, CA, announced the acquisition of Netherlands-based Tinoway Nederland BV. The terms of the acquisition were not disclosed.

In Dec 1998 Oracle Corp announced the acquisition of Expanxion SA (Lille, France). As part of the agreement, Oracle has hired all former employees of Expanxion SA.

In Dec 1998, Oracle Corp (Redwood City, CA) announced the completion of the acquisition of Versatility Inc (Fairfax, VA). The cash transaction is valued at approximately $12 million.

In Nov 1998, Oracle Corporation (Redwood City, CA) announced That is successfully concluded the acquisition of One Meaning Inc (Palo Alto, CA).

In Nov 1998 Oracle Corporation (Redwood City, CA) announced That is successfully concluded the acquisition of One Meaning Inc (Palo Alto, CA).

On Aug 29 1997, the company acquired the shares of Treasury Services Corporation, Santa Monica, CA, for approximately $110,000,000 in cash and the conversion of outstanding TSC options to options to purchase the company's common stock

On May 19 1997, Netscape Communications Corp announced a definitive agreement was reached whereby Oracle would purchase Navio Communications Inc, a Netscape Communications Corp spinoff company developing software for new information appliances, from Netscape and other investors for stock in an Oracle subsidiary called Network Computer Inc. On Aug 11 1997, Network Computer Inc and Navio Communications Inc announced the completion of their merger in an exchange of stock transaction valued at approximately $77,000,000

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OPERATION
03/16/01 Designs, develops, markets and supports computer software products with a wide variety of uses, including database management,

application development and business intelligence tools and business applications. The company also offers consulting, education and support services in support of its customers' use of its software products.

ADDITIONAL TELEPHONE NUMBER(S): Facsimile (Fax) 415 506-7200; Toll-Free (800) 633-0583.

Terms: Are fee from licenses that are net 30 days. Sells to software distributors and end users. Territory : International. Nonseasonal. In the United States, the company markets its products through its own direct sales and service organization, Oracle USA. Outside of the United States, the company markets its products primarily through the sales and service organizations of approximately 55 subsidiaries.

EMPLOYEES: 41,290 which includes officer(s). 2,300 employed here.

FACILITIES: Leases and owns 2,200,000 sq. ft. in several buildings comprising the company's headquarters facilities in Redwood City, CA, of which 1,700,000 square feet is located in seven buildings. The company owns two of the buildings, has recorded an additional four buildings as capital leases and has an option to acquire the remaining buildings.

LOCATION: Suburban business section on well traveled street.

BRANCHES: This business has multiple branches, detailed branch/division information is available in Dun & Bradstreet's linkage or family tree products.

SUBSIDIARIES: This business has multiple subsidiaries, Detailed information is available in Dun & Bradstreet's linkage or family tree products.

03-19(10N /107) 45701 050114114 H

FULL DISPLAY COMPLETE

** End of BIR **

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Refer comments or questions to customer service.

Dun & Bradstreet Report—PeopleSoft

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IN DATE Statement Date: MAR 31 2001

DUNS: 19-467-8116	DATE PRINTED	SUMMARY
PEOPLESOFT, INC	JUL 26 2001	RATING 5A2
4460 HACIENDA DR	COMPUTER SOFTWARE	STARTED 1987
AND BRANCH(ES) OR DIVISION(S)	DEVELOPMENT	SALES F
$1,429,146,000		
PLEASANTON CA 94588	SIC NO.	WORTH $764,619,000
TEL: 925 225-3000	73 72	EMPLOYS 6,929
		(4,500 HERE)
		HISTORY CLEAR
		FINANCING SECURED
		FINANCIAL
CHIEF EXECUTIVE: CRAIG CONWAY, PRES-CEO-COO		CONDITION GOOD

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SPECIAL EVENTS

07/25/01 EARNINGS UPDATE: According to published reports, comparative operating results for the 6 months ended June 30, 2001: Revenue of $1,035,740,000, Net Income of $83,439,000 and Earnings Per Share of $0.27; compared to Revenue of $795,573,000, Net Income of $32,733,000 and Earnings Per Share of $0.12 for the comparable period in the prior year.

07/09/01 OTHER SPECIAL EVENT: According to published reports, PeopleSoft, Pleasanton, CA and eRoom Technology Inc, Cambridge, MA, announced a strategic alliance to integrate PeopleSoft Enterprise Service Automation with the eRoom Digital Workplace platform.

05/10/01 OFFICER CHANGE: According to published reports, Nancy Caldwell has been named to the post of CMO.

05/07/01 ANNOUNCED MERGER/ACQUISITION: According to published reports, PeopleSoft Inc (Pleasanton, CA) announced a definitive agreement to acquire SkillsVillage (Santa Clara, CA).

04/27/01 EARNINGS UPDATE: According to published reports, comparative operating results for the 3 months ended March 31, 2001: Revenue of $503,088,000, Net Income of $36,058,000 and Earnings Per Share of $0.11; compared to Revenue of $375,419,000, Net Income of $16,785,000 and Earnings Per Share of $0.06 for the comparable period in the prior year.

04/06/01 OTHER SPECIAL EVENT: According to published reports, Sun Microsystems Inc (Palo Alto CA) and PeopleSoft Inc (Pleasonton CA) announced a strategic alliance to deliver a scalable, internet-ready customer relationship management solution.

03/01/01 OTHER SPECIAL EVENT: According to published reports, the

company announced an alliance with Syncra Systems Inc which will enable consumer goods companies to better align supply with demand by extending their supply chains to trading partners via the internet.

01/31/01 EARNINGS UPDATE: According to published reports, comparative operating results for the year ended December 31, 2000: Revenue of $1,736,473,000, Net Income of $145,691,000 and Earnings Per Share of $0.48; compared to Revenue of $1,429,146,000, Net Income of ($177,765,000) and Earnings Per Share of ($0.67) for the comparable period in the prior year.

10/18/00 EARNINGS UPDATE: According to published reports, comparative operating results for the 9 months ended September 30, 2000: Revenue of $1,056,869,000, Net Income of ($172,201,000) and Earnings Per Share of ($0.66); compared to Revenue of $1,238,693,000, Net Income of $101,465,000 and Earnings Per Share of $0.35 for the comparable period in the prior year.

OFFICER CHANGE: According to published reports, Kevin T Parker was named senior vice president, finance and CFO.

STOCK/BOND ISSUANCE/REDEMPTION/REPURCHASE: According to published reports, PeopleSoft announced the company's board of directors has approved a plan to repurchase up to $100 million of the company's common stock. The share repurchase will be made from time to time over the next 12 months. The repurchase plan does not obligate the company to repurchase any number of dollar amount of shares and the plan may be suspended or discontinued at any time.

08/24/00 OTHER SPECIAL EVENT: According to published reports, Sprint PCS (Pleasanton, CA) and Sprint PCS (Kansas City, MO) announced a strategic alliance to cooperate in the marketing and sale of nationwide access to the PeopleSoft Mobile Directory application as part of the Sprint PCS Wireless Web for Business. Through this alliance, Sprint PCS and PeopleSoft will provide wireless access to corporate directory information via the Sprint PCS 100% digital nationwide wireless network.

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* * * CUSTOMER SERVICE * * *

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If you need any additional information or have any questions, please call the D&B Online Customer Service Center at 1-800-223-1026.

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* * * SUMMARY ANALYSIS * * *

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The Summary Analysis section reflects information in D&B's file as of July 25, 2001.

RATING SUMMARY . . . .

The "5A" portion of the Rating (the Rating Classification) indicates that the company has a worth in excess of $50 million. The "2" on the right (Composite Credit Appraisal) indicates an overall "good" credit

appraisal. This credit appraisal was assigned because of D&B's assessment of the company's financial ratios and its management's experience.

Below is an overview of the company's D&B Rating(s) since 01/01/91:

RATING	DATE APPLIED
5A2	07/26/96
5A3	05/09/96
5A2	07/27/95
5A3	04/25/95
5A2	09/20/94
5A1	04/23/94
4A2	02/17/94
4A1	12/16/93
4A2	04/02/93
3A2	01/01/91

* * * PAYMENT SUMMARY * * *

The Payment Summary section reflects payment information in D&B's file as of the date of this report.

The PAYDEX for this company is 68.

This PAYDEX score indicates that payments to suppliers average 17 days beyond terms, weighted by dollar amounts. When dollar amounts are not considered, approximately 59% of the company's payments are within terms.

Below is an overview of the company's dollar-weighted payments, segmented by its suppliers' primary industries:

	TOTAL RCV'D	TOTAL DOLLAR AMOUNTS	LARGEST HIGH CREDIT	% W/IN TERMS	DAYS SLOW <31	31-60	61-90	91+
	#	$	$	%	%	%	%	%
Total in D&B's file	180	2,539,750	500,000					
Top 10 Industries:								
1 Telephone communictns	13	310,250	300,000	99	-	1	-	-
2 Help supply service	13	210,500	60,000	36	32	20	-	12
3 Mfg computers	6	480,000	400,000	54	4	-	42	-
4 Whol electronic parts	5	508,700	500,000	98	1	-	1	-
5 Whol office equipment	5	75,000	35,000	25	73	-	-	2

6 Electric services	4	307,500	250,000	100	-	-	-	-
7 General warehousing	4	58,000	55,000	97	-	-	3	-
8 Computer system desgn	4	100,000	50,000	25	50	25	-	-
9 Custom programming	4	57,500	45,000	4	-	-	96	-
10 Whol general grocery	1	100,000	100,000	100	-	-	-	-
11 OTHER INDUSTRIES	110	312,300	40,000	40	37	6	10	7

Other Payment Categories:

Cash experiences	0	0	0
Payment record unknown	10	20,000	10,000
Unfavorable comments	0	0	0
Placed for collection			
with D&B	0	0	
other	1	N/A	

The highest "Now Owes" on file is $250,000
The highest "Past Due" on file is $45,000

Dun & Bradstreet has 180 payment experiences in its file for this company. For
your convenience, we have displayed 80 representative experiences in the PAYMENTS section.

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PAYMENTS (Amounts may be rounded to nearest figure in prescribed ranges)

Antic - Anticipated (Payments received prior to date of invoice)
Disc - Discounted (Payments received within trade discount period)
Ppt - Prompt (Payments received within terms granted)

REPORTED SALE	PAYING RECORD	HIGH CREDIT	NOW OWES	PAST DUE	SELLING TERMS	LAST WITHIN
07/01	Ppt	2500	500			
	Ppt	1000	1000			
	Ppt	50	-0-	-0-		6-12 Mos
	Ppt	50	-0-	-0-		2-3 Mos
	Ppt		-0-	-0-	N30	6-12 Mos
	Ppt-Slow 30	1000	1000	750	N30	1 Mo
	Ppt-Slow 30	750	100			
	Ppt-Slow 60	250	50	-0-		1 Mo
	Ppt-Slow 60	250	-0-	-0-		1 Mo
	Slow 15	500	-0-	-0-		6-12 Mos
	Slow 15-80	5000	5000	5000	N30	2-3 Mos
	Slow 90	50	-0-	-0-	N30	4-5 Mos
06/01	Ppt	500000+	250	-0-	Spec agreement	1 Mo

Ppt	250000	250000	-0-	N30	1 Mo
Ppt	55000	35000	-0-		1 Mo
Ppt	25000	7500	-0-	N30	1 Mo
Ppt	25000	5000	-0-	N30	1 Mo
Ppt	10000	-0-	-0-		2-3 Mos
Ppt	7500	-0-	-0-		2-3 Mos
Ppt	7500	2500	-0-	N30	1 Mo
Ppt	2500	2500	-0-	N30	1 Mo
Ppt	2500	2500	-0-		1 Mo
Ppt	2500	2500	-0-		
Ppt	2500	-0-	-0-		1 Mo
Ppt	2500	2500	-0-		
Ppt	1000	-0-	-0-	Spec agreement	6-12 Mos
Ppt	1000	1000	-0-		1 Mo
Ppt	1000	-0-	-0-		4-5 Mos
Ppt	1000	-0-	-0-		2-3 Mos
Ppt	1000	-0-	-0-		1 Mo
Ppt	1000	-0-	-0-		1 Mo
Ppt	1000	-0-	-0-		4-5 Mos
Ppt	750	500	-0-		1 Mo
Ppt	750	-0-	-0-	N30	6-12 Mos
Ppt	500	-0-	-0-	N30	6-12 Mos
Ppt	500	-0-	-0-		1 Mo
Ppt	250	-0-	-0-		6-12 Mos
Lease agreement					
Ppt	250	-0-	-0-		2-3 Mos
Ppt	250	250	-0-	N30	1 Mo
Ppt	100	100	-0-		1 Mo
Ppt	100	-0-	-0-		4-5 Mos
Ppt	100	-0-	-0-		4-5 Mos
Ppt	50	-0-	-0-	N30	6-12 Mos
Ppt	50	50	-0-		1 Mo
Ppt-Slow 30	40000	-0-	-0-		2-3 Mos
Ppt-Slow 30	15000	1000	50		1 Mo
Ppt-Slow 30	1000	-0-	-0-	N30	2-3 Mos
Ppt-Slow 30	750	100	50	N30	1 Mo
Ppt-Slow 30	250	250	250		4-5 Mos
Ppt-Slow 30	100	-0-	-0-	N30	6-12 Mos
Ppt-Slow 60	60000	-0-	-0-		1 Mo
Ppt-Slow 60	7500	2500	250		1 Mo
Ppt-Slow 60	5000	750	50		1 Mo
Ppt-Slow 60	750	500	-0-	N7	1 Mo
Ppt-Slow 90	1000	100	-0-	N10	1 Mo
Ppt-Slow 90	1000	1000	1000	N30	2-3 Mos
Ppt-Slow 90	1000	1000	1000		2-3 Mos

	Ppt-Slow 90	500	-0-	-0-		6-12 Mos
	Slow 15	1000	1000	1000		
	Slow 30	20000	-0-	-0-		6-12 Mos
	Slow 30	7500	2500	2500		2-3 Mos
	Slow 30	2500	2500	2500	N15	2-3 Mos
	Slow 30	250	-0-	-0-		6-12 Mos
	Slow 30	100	100	100		1 Mo
	Slow 15-30	100	-0-	-0-		
	Slow 30-60	25000	-0-	-0-		6-12 Mos
	Slow 60	15000	10000	10000		
	Slow 70		-0-			2-3 Mos
	Slow 30-90	7500	-0-	-0-	N30	6-12 Mos
	Slow 90	1000	1000	1000		
	Slow 90	1000	1000	1000		6-12 Mos
	Slow 90	100	-0-	-0-	N30	6-12 Mos
	Slow 90		-0-			2-3 Mos
	Slow 30-120	20000	750	-0-	N30	1 Mo
	Slow 120+	100	100	100		
	Slow 120+	100	100	100		
05/01	Ppt-Slow 30	7500	7500	2500		1 Mo
	Slow 5	20000	2500	50	N30	1 Mo
	Slow 30	100	100	100	N30	1 Mo
	Slow 30-90	40000	25000	15000		1 Mo

* Payment experiences reflect how bills are met in relation to the terms granted. In some instances payment beyond terms can be the result of disputes over merchandise, skipped invoices etc.

* Each experience shown represents a separate account reported by a supplier. Updated trade experiences replace those previously reported.

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STATEMENT UPDATE

05/21/01 Interim Consolidated statement dated MAR 31 2001:

Cash	$ 337,078,000	Accts Pay	$ 36,910,000
Accts Rec	429,651,000	Accruals	296,420,000
Mktble Securities	726,811,000	Taxes	6,709,000
Income Taxes Receivable	20,083,000	Deferred Revenues	415,198,000
Deferred Tax Assets	63,913,000		
Other Curr Assets	73,938,000		
Curr Assets	1,651,474,000	Curr Liabs	755,237,000
Fixt & Equip	211,664,000	Long Term Debt	57,000,000

Deferred Tax		L.T. Liab-Other	21,203,000
Assets	19,043,000	Def. Credits/Income	103,005,000
Investments-Other	99,223,000	COMMON STOCK	2,912,000
Capitalized		ADDIT. PD.-IN CAP	857,334,000
Software	6,528,000	TREASURY STOCK	(15,000,000)
Other Assets	35,600,000	RETAINED EARNINGS	261,718,000
		ACCUM OTHER COMPREHENSIVE	
		LOSS	(19,877,000)
Total Assets	2,023,532,000	Total	2,023,532,000

From JAN 01 2001 to MAR 31 2001 sales $503,088,000; cost of Goods sold $217,854,000. Gross profit $285,234,000; operating Expenses $239,103,000. Operating income $46,131,000; other income $8,920,000; net income before taxes $55,051,000; Federal income tax $18,993,000; net income $36,058,000.

Statement received by mail MAY 15 2001. Statement obtained in outside quarters. Prepared from books without audit.

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Fixed assets shown net less $248,281,000 depreciation. Statements item explanations were not provided.

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FINANCE
06/02/00

	Fiscal Consolidated Dec 31 1997	Fiscal Consolidated Dec 31 1998	Fiscal Consolidated Dec 31 1999
Curr Assets	726,046,000	1,163,515,000	1,359,376,000
Curr Liabs	481,032,000	668,487,000	752,163,000
Current Ratio	1.51	1.74	1.81
Working Capital	245,014,000	495,028,000	607,213,000
Other Assets	172,290,000	277,090,000	328,502,000
Noncurrent Liabs	0	107,826,000	171,096,000
Worth	417,304,000	664,292,000	764,619,000
Sales	815,651,000	1,313,673,000	1,429,146,000
Net Income	108,263,000	143,218,000	(177,765,000)
Depreciation & Amor	38,873,000	58,157,000	97,274,000
Capital Expenditures	55,388,000	99,686,000	57,209,000
Cash Prov By Oper	230,109,000	384,535,000	(46,696,000)

Fiscal Consolidated statement dated DEC 31 1999:

Cash	$ 414,019,000	Accts Pay	$ 27,555,000
Accts Rec	331,104,000	Deferred Income	
Mktble Securities	550,786,000	Taxes	23,945,000
Other Curr Assets	63,467,000	Accruals	251,679,000
		Taxes	19,055,000
		Deferred Revenues	429,929,000
Curr Assets	1,359,376,000	Curr Liabs	752,163,000
Fixt & Equip	172,493,000	Long-Term Debt	69,000,000
Deferred Income			

Taxes	18,774,000		
Investments-Other	67,852,000	L.T. Liab-Other	14,050,000
Capitalized		Def. Credits/Income	88,046,000
Software	27,286,000	COMMON STOCK	2,709,000
Other Assets	42,097,000	ADDIT. PD.-IN CAP	538,643,000
		ADJUSTMENTS	143,298,000
		RETAINED EARNINGS	79,969,000
Total Assets	1,687,878,000	Total	1,687,878,000

From JAN 01 1999 to DEC 31 1999 annual sales $1,429,146,000; cost of goods sold $632,089,000. Gross profit $797,057,000; operating expenses $1,035,630,000. Operating income $(238,573,000); other income $72,175,000; net income before taxes $(166,398,000); Federal income tax $11,367,000. (net loss) $(177,765,000). Retained earnings at start $257,734,000. Net loss (177,765,000); retained earnings at end $79,969,000.

FEB 04 2000 Accountant: Ernst & Young LLP.

ACCOUNTANTS OPINION: A review of the accountant's opinion indicates the financial statements meet generally accepted accounting principles and that the audit contains no qualifications.

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Accounts receivable shown net less $45,794,000 allowance. Fixed assets shown net less $187,056,000 depreciation.

On JUN 02 2000 The Company, referred to the above figures.

Net cash provided (used) by operating activities was ($46,696,000) for fiscal Dec 31 1999 compared to $341,456,000 for fiscal Dec 31 1998. Net cash (used) in investing activities was ($90,826,000) for fiscal 1999 compared to ($216,055,000) for fiscal 1998. Net cash provided by financing activities was $21,787,000 for fiscal 1999 compared to $114,179,000 for fiscal 1998.

Tangible net worth increased in fiscal 1999 in spite of a net loss for the year due in part to additional common stock issued and the unrealized gain on available-for-sale investments.

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PUBLIC FILINGS

The following data is for information purposes only and is not the official record. Certified copies can only be obtained from the official source.

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* * * JUDGMENT(S) * * *

DOCKET NO.: M141591
JDGMT AWARD: $313,736 STATUS: Unsatisfied
JDGMT TYPE: Judgment DATE STATUS ATTAINED: 01/05/2001
AGAINST: PEOPLESOFT, INC, PLEASANTON, CA DATE ENTERED: 01/05/2001
IN FAVOR OF: CITY OF KNOXVILLE LATEST INFO COLLECTED: 02/19/2001
WHERE FILED: KNOX COUNTY CHANCERY COURT,

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            KNOXVILLE, TN
-------------------------------------------------------------------------------
                            * * * SUIT(S) * * *
-------------------------------------------------------------------------------
DOCKET NO.: 01CV04736
SUIT AMOUNT: $10,740                          STATUS: Pending
PLAINTIFF:   RANDY DAVIS                      DATE STATUS ATTAINED:  02/21/2001
DEFENDANT:   PEOPLESOFT INC                   DATE FILED:            02/21/2001
WHERE FILED: HAMILTON COUNTY MUNICIPAL COURT  LATEST INFO RECEIVED:
03/27/2001
            CINCINNATI, OH
-------------------------------------------------------------------------------
DOCKET NO.: 141591
PLAINTIFF:   CITY OF KNOXVILLE, KNOXVILLE,  STATUS: Pending
             TN                             DATE STATUS ATTAINED:  01/26/1999
DEFENDANT:   PEOPLESOFT INC, PLEASANTON, CA DATE FILED:            01/26/1999
WHERE FILED: KNOX COUNTY CHANCERY COURT (6TH  LATEST INFO COLLECTED:
02/03/1999
             DISTRICT), KNOXVILLE, TN
-------------------------------------------------------------------------------
                            * * * LIEN(S) * * *
-------------------------------------------------------------------------------
         A lienholder can file the same lien in more than one filing
         location.  The appearance of multiple liens filed by the
         same lienholder against a debtor may be indicative of such
         an occurrence.
-------------------------------------------------------------------------------
BOOK/PAGE: 514/2038
AMOUNT:   $2,593                              STATUS: Open
TYPE:     State Tax                           DATE STATUS ATTAINED:  05/07/2001
FILED BY: ST OF SC                            DATE FILED:            05/07/2001
AGAINST:  PEOPLESOFT INC, PLEASANTON, CA      LATEST INFO COLLECTED: 06/29/2001
          and OTHERS
WHERE FILED: RICHLAND COUNTY REGISTER OF
             DEEDS, COLUMBIA, SC
-------------------------------------------------------------------------------
CASE NO.: 2000002438
AMOUNT:   $2,703 Withholding                  STATUS: Open
TYPE:     State Tax                           DATE STATUS ATTAINED:  01/07/2000
FILED BY: STATE OF SOUTH CAROLINA             DATE FILED:            01/07/2000
AGAINST:  PEOPLE SOFT INC, PLEASANTON, CA     LATEST INFO RECEIVED:  04/04/2000
WHERE FILED: RICHLAND COUNTY REGISTER OF
             DEEDS, COLUMBIA, SC
-------------------------------------------------------------------------------
CASE NO.: 1999098336
AMOUNT:   $4,607 Withholding                  STATUS: Open
TYPE:     State Tax                           DATE STATUS ATTAINED:  11/18/1999
FILED BY: STATE OF SOUTH CAROLINA             DATE FILED:            11/18/1999
AGAINST:  PEOPLE SOFT INC, PLEASANTON, CA     LATEST INFO RECEIVED:  04/04/2000
WHERE FILED: RICHLAND COUNTY REGISTER OF
             DEEDS, COLUMBIA, SC
-------------------------------------------------------------------------------
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DOCKET NO.: 99JG01494
AMOUNT:   $519                                STATUS: Open
TYPE:     State Tax                           DATE STATUS ATTAINED:  01/12/1999
FILED BY: STATE OF OHIO                       DATE FILED:            01/12/1999
AGAINST:  PEOPLE SOFT INC, WALNUT CREEK, CA   LATEST INFO RECEIVED:  06/15/1999
WHERE FILED: FRANKLIN COUNTY COMMON PLEAS
             COURT, COLUMBUS, OH
-------------------------------------------------------------------------------
DOCKET NO.: 98-N-0831
AMOUNT:   $663                                STATUS: Open
TYPE:     State Tax                           DATE STATUS ATTAINED:  04/06/1998
FILED BY: COMMONWEALTH OF PENNSYLVANIA        DATE FILED:            04/06/1998
AGAINST:  PEOPLESOFT INC, PLEASANTON, CA      LATEST INFO RECEIVED:  12/05/2000
WHERE FILED: DAUPHIN COUNTY PROTHONOTARY,
             HARRISBURG, PA
-------------------------------------------------------------------------------
DOCKET NO.: 98-N-0832
AMOUNT:   $12,895                             STATUS: Open
TYPE:     State Tax                           DATE STATUS ATTAINED:  04/06/1998
FILED BY: COMMONWEALTH OF PENNSYLVANIA        DATE FILED:            04/06/1998
AGAINST:  PEOPLESOFT INC, PLEASANTON, CA      LATEST INFO RECEIVED:  12/05/2000
WHERE FILED: DAUPHIN COUNTY PROTHONOTARY,
             HARRISBURG, PA
-------------------------------------------------------------------------------
BOOK/PAGE: 8705/1562
AMOUNT:   $330                                STATUS: Open
TYPE:     State Tax                           DATE STATUS ATTAINED:  09/09/1997
FILED BY: DEPARTMENT OF LABOR AND EMPLOYMENTDATE FILED:              09/09/1997
          SECURITY                            LATEST INFO RECEIVED:  09/23/1997
AGAINST:  RED PEPPER SOFTWARE COMPANY, SAN
          MATEO, CA
WHERE FILED: HILLSBOROUGH COUNTY RECORDERS
             OFFICE, TAMPA, FL
-------------------------------------------------------------------------------
BOOK/PAGE: 3360/134
AMOUNT:   $14,430 Withholding                 STATUS: Released
TYPE:     State Tax                           DATE STATUS ATTAINED:  06/11/1999
FILED BY: STATE OF GEORGIA, ATLANTA, GA       DATE FILED:            05/30/1997
AGAINST:  PEOPLE SOFT INC, WALNUT CREEK, CA   LATEST INFO COLLECTED: 08/02/1999
WHERE FILED: FULTON COUNTY RECORDERS OFFICE,
             ATLANTA, GA
-------------------------------------------------------------------------------
DOCKET NO.: 97-00544
AMOUNT:   $506                                STATUS: Open
TYPE:     DISTRICT OF COLUMBIA Tax            DATE STATUS ATTAINED:  11/19/1996
FILED BY: DISTRICT OF COLUMBIA                DATE FILED:            11/19/1996
AGAINST:  PEOPLESOFT  INC. CORP., WALNUT      LATEST INFO RECEIVED:  02/06/1997
          CREEK, CA
WHERE FILED: DISTRICT OF COLUMBIA RECORDER
             OF DEEDS, WASHINGTON, DC
-------------------------------------------------------------------------------
BOOK/PAGE: 96206/2280
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AMOUNT:   $5,028                              STATUS: Open
TYPE:     State Tax                           DATE STATUS ATTAINED:  10/21/1996
FILED BY: STATE OF TEXAS                      DATE FILED:            10/21/1996
AGAINST:  PEOPLESOFT INC, WALNUT CREEK, CA    LATEST INFO RECEIVED:  11/08/1996
WHERE FILED: DALLAS COUNTY RECORDERS OFFICE,
             DALLAS, TX
-------------------------------------------------------------------------------
                           * * * UCC FILING(S) * * *
-------------------------------------------------------------------------------
COLLATERAL: All Assets and proceeds - All Account(s) and proceeds - All
Chattel paper and proceeds - All General intangibles(s) and proceeds – All
Contract rights and proceeds
FILING NO:  0042045                           DATE FILED:            07/05/2000
TYPE:       Original                          LATEST INFO RECEIVED:  07/25/2000
SEC. PARTY: WELLS FARGO HSBC TRADE BANK N.A.FILED WITH: SECRETARY OF
            SAN FRANCISCO, CA                   STATE/UCC DIVISION,
DEBTOR:     PEOPLESOFT, INC.                    DE
-------------------------------------------------------------------------------
COLLATERAL: Negotiable instruments including proceeds and products –
Inventory including proceeds and products - Account(s) including proceeds and
products - Chattel paper including proceeds and products – and OTHERS
FILING NO:  9706960978                        DATE FILED:            03/05/1997
TYPE:       Original                          LATEST INFO RECEIVED:  03/27/1997
SEC. PARTY: MMC/GATX PARTNERSHIP NO. 1, A     FILED WITH: SECRETARY OF
            CALIFORNIA GENERAL PARTNERSHIP,      STATE/UCC DIVISION,
            SANTA CLARA, CA                     CA
            SILICON VALLEY BANK, SANTA CLARA
            CA
DEBTOR:     PEOPLESOFT, INC., PLEASANTON, CA

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
-------------------------------------------------------------------------------
FILING NO:  9706960978                        DATE FILED:            09/12/1997
TYPE:       Partial release                   LATEST INFO RECEIVED:  09/23/1997
SEC. PARTY: SILICON VALLEY BANK, SANTA CLARAORIG. UCC FILED: 03/05/1997
            CA                                ORIG. FILING NO: 9706960978
            MMC/GATX PARTNERSHIP NO. 1, A     FILED WITH: SECRETARY OF

            CALIFORNIA GENERAL PARTNERSHIP,      STATE/UCC DIVISION,
            SANTA CLARA, CA                     CA
DEBTOR:     PEOPLESOFT, INC., PLEASANTON, CA

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
-------------------------------------------------------------------------------
FILING NO:  9706960978                        DATE FILED:            04/03/2000
TYPE:       Termination                       LATEST INFO RECEIVED:  04/11/2000
SEC. PARTY: SILICON VALLEY BANK, SANTA CLARAORIG. UCC FILED: 03/05/1997
            CA                                ORIG. FILING NO: 9706960978
            MMC/GATX PARTNERSHIP NO. 1, A     FILED WITH: SECRETARY OF
            CALIFORNIA GENERAL PARTNERSHIP,      STATE/UCC DIVISION,
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            SANTA CLARA, CA                                  CA
DEBTOR:     PEOPLESOFT, INC.

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
-------------------------------------------------------------------------
COLLATERAL: Inventory including proceeds and products - Account(s) including
            proceeds and products - Computer equipment including proceeds and
            products - Communications equipment including proceeds and
            products - and OTHERS
FILING NO:  9827960085                      DATE FILED:            10/02/1998
TYPE:       Original                        LATEST INFO RECEIVED:  10/14/1998
SEC. PARTY: WILMINGTON TRUST COMPANY, AS    FILED WITH: SECRETARY OF
            OWNER TRUSTEE, WILMINGTON, DE             STATE/UCC DIVISION,
ASSIGNEE:   ABN AMRO BANK N.V., AS INDENTURE             CA
            TRUSTEE, NEW YORK, NY
DEBTOR:     PEOPLESOFT, INC., PLEASANTON, CA

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
-------------------------------------------------------------------------
COLLATERAL: Inventory including proceeds and products - Account(s) including
            proceeds and products - Machinery including proceeds and products
             - Computer equipment including proceeds and products - and
            OTHERS
FILING NO:  9704160289                      DATE FILED:            02/07/1997
TYPE:       Original                        LATEST INFO RECEIVED:  02/26/1997
SEC. PARTY: ABN AMRO BANK, N.V., SAN        FILED WITH: SECRETARY OF
            FRANCISCO, CA                             STATE/UCC DIVISION,
            LEASE PLAN NORTH AMERICA, INC.,              CA
            CHICAGO, IL
DEBTOR:     PEOPLESOFT, INC., PLEASANTON, CA

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
-------------------------------------------------------------------------
COLLATERAL: Accounts receivable and proceeds - Account(s) and proceeds -
            Chattel paper and proceeds - General intangibles(s) and proceeds
             - Contract rights and proceeds
FILING NO:  0009660323                      DATE FILED:            04/03/2000
TYPE:       Original                        LATEST INFO RECEIVED:  04/17/2000
SEC. PARTY: WELLS FARGO HSBC TRADE BANK,    FILED WITH: SECRETARY OF
            N.A., SAN FRANCISCO, CA                   STATE/UCC DIVISION,
DEBTOR:     PEOPLESOFT, INC.                             CA

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
-------------------------------------------------------------------------
COLLATERAL: Accounts receivable and proceeds - General intangibles(s) and
            proceeds - Chattel paper and proceeds
FILING NO:  9732360460                      DATE FILED:            11/17/1997
TYPE:       Original                        LATEST INFO RECEIVED:  12/02/1997
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SEC. PARTY: HELLER FINANCIAL, INC., CHICAGO,FILED WITH: SECRETARY OF
            IL                                    STATE/UCC DIVISION,
DEBTOR:     PEOPLESOFT, INC., PLEASANTON, CA      CA

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
-------------------------------------------------------------------------
COLLATERAL: Accounts receivable - Contract rights
FILING NO:  9628160085                  DATE FILED:            10/04/1996
TYPE:       Original                    LATEST INFO RECEIVED:  10/16/1996
SEC. PARTY: NEWCOURT FINANCIAL USA, INC., FILED WITH: SECRETARY OF
            INDIANAPOLIS, IN                      STATE/UCC DIVISION,
DEBTOR:     PEOPLESOFT, INC., PLEASANTON, CA      CA
            and OTHERS

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
-------------------------------------------------------------------------
COLLATERAL: Leased Inventory and proceeds - Chattel paper and proceeds
FILING NO:  0116360234                  DATE FILED:            06/11/2001
TYPE:       Original                    LATEST INFO RECEIVED:  06/25/2001
SEC. PARTY: CISCO SYSTEMS CAPITAL       FILED WITH: SECRETARY OF
            CORPORATION, SAN JOSE, CA             STATE/UCC DIVISION,
DEBTOR:     PEOPLESOFT, INC.                      CA

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
-------------------------------------------------------------------------
COLLATERAL: Leased Inventory and proceeds
FILING NO:  0033560034                  DATE FILED:            11/28/2000
TYPE:       Original                    LATEST INFO RECEIVED:  12/18/2000
SEC. PARTY: CISCO SYSTEMS CAPITAL       FILED WITH: SECRETARY OF
            CORPORATION, SAN JOSE, CA             STATE/UCC DIVISION,
DEBTOR:     PEOPLESOFT, INC, PLEASANTON, CA       CA

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
-------------------------------------------------------------------------
COLLATERAL: Leased Inventory and proceeds - Chattel paper and proceeds –
Leased Equipment and proceeds
FILING NO:  9935460637                  DATE FILED:            12/08/1999
TYPE:       Original                    LATEST INFO RECEIVED:  01/04/2000
SEC. PARTY: CISCO SYSTEMS CAPITAL       FILED WITH: SECRETARY OF
            CORPORATION, SAN JOSE, CA             STATE/UCC DIVISION,
DEBTOR:     PEOPLESOFT INC                        CA

This data is for informational purposes only, certification can only be
obtained through the Sacramento Office of the California Secretary of State.
-------------------------------------------------------------------------

        There are additional suits, liens, or judgments in D&B'S
        file on this company available by contacting 1-800-223-1026.
```

There are additional UCC's in D&B's file on this company available by contacting 1-800-223-1026.

The public record items contained in this report may have been paid, terminated, vacated or released prior to the date this report was printed.

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BANKING

May 2000: At Dec 31 1999, cash and cash equivalents were reported to be a moderate nine figure range.

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HISTORY
07/25/01

DAVID A DUFFIELD, CHB
CRAIG A CONWAY, PRES-CEO-COO
ALBERT W DUFFIELD, SR V PRES-WORLDWIDE OPS+
STEPHEN F HILL, SVP-BUS DEV
BAER TIERKEL, EXEC V PRES-MKTG
ANEEL BHUSRI, V CHB-SR V PRES+
ANNE S JORDAN, SENIOR V PRES-GEN COUNSEL-SEC
KEVIN T PARKER, SVP-FIN-CFO
NANCY CALDWELL, CMO
DIRECTOR(S): The officers identified by (+) and George J Still Jr, A George Battle, Edgar F Codd, and Cyril J Yansouni.

The Corporate Details provided below may have been submitted by the management of the subject business and may not have been verified with the government agency which records such data.

BUSINESS TYPE: Corporation - Profit
DATE INCORPORATED: 08/13/1987
STATE OF INCORP: Delaware

AUTH SHARES-COMMON: 320,000,000
PAR VALUE-COMMON: $0.0100

AUTH SHARES-PREF: 2,000,000
PAR VALUE-PREF: $0.0100

OUTSTANDING STOCK: As of Dec 31 1998, there were 270,944,000 shares of common stock outstanding, at a stated value of $2,709,000. There were no preferred shares outstanding.

BACKGROUND:.

Business started 1987 by David A Duffield and Kenneth R Morris. Relocated Aug 1998 from 4440 Rosewood Dr.

An initial public offering of 2,292,900 shares of the company's common stock was made in Nov 1992. May 1993, the company completed

a secondary public offering of 437,700 shares. The common stock is traded on the Nasdaq National Market under the symbol 'PSFT'. As of March 14, 2000, the approximate number of common stockholders of record was 3,731, representing approximately 148,000 shareholder accounts. Beneficial holders of the common stock exceeding 5%, as of Mar 31 2000, were as follows: David A Duffield 14.46%; Capital Research and Management, Los Angeles, CA with 9.16% and Capital Guardian Trust Inc, Los Angeles, CA with 5.08%. The officers and directors, as a group, beneficially owned 15.34% of the outstanding shares.

DAVID A DUFFIELD born 1940. Graduated from Cornell University; received BS degree in Electrical Engineering and an MBA. 1964-68 IBM; systems engineer and marketing representative. 1968-72 Information Associates Inc, Rochester, NY; co-founder and president. 1972-87 Integral Systems Inc, Walnut Creek, CA; founder and CHB. 1987-present active here.

CRAIG A CONWAY. Until February 1999, Conway was president and CEO of One Touch Systems. He has also headed TGV Software Inc.

ALBERT W DUFFIELD born 1943. Graduated from Cornell University, received BS degree in Hotel/Business Administration, and received an MBA degree from Rutgers University. Served in the U S Army. 1971-81 IBM; numerous sales management and staff management positions. 1982-90 Integral Systems Inc, Walnut Creek, CA; senior vice president-sales and marketing. 1990-present active here.

STEPHEN F HILL. Most recently served here as vice president of business development.

TIERKEL. Joined the Company in 1991 as a Product Manager. Prior to his current role, Mr. Tierkel was responsible for launching PeopleSoft's eBusiness business units.

ANEEL BHUSRI. He was senior vice president, product strategy, marketing and business development for the past several years.

JORDAN. Joined the Company in July 1999 as Senior Vice President, General Counsel and Corporate Secretary for PeopleSoft. Prior to joining PeopleSoft, Ms. Jordan was Vice President, administration and General Counsel for Sega of America, Inc., from September 1994 to June 1999.

GEORGE J STILL JR born 1958. Director since 1989. Partner in Norwest Venture Capital, Minneapolis, MN, a venture capital company.

EDGAR F CODD born 1923. Director since 1992. Principal in Codd and Date Consulting, and Codd and Date Inc.

CYRIL J YANSOUNI born 1942. Director since 1992. CHB and ceo Of Read-Rite Corporation.

A GEORGE BATTLE born 1943. A director since 1995. Retired managing partner of market development, Andersen Consulting.

KEVIN T PARKER. Previously senior vice president and CFO for Aspect Communications Corp.

NANCY CALDWELL. Previously served with Hewlett-Packard.

----------ACQUISITIONS----------.

During June 1998, the Company entered into a definitive Agreement to acquire all outstanding equity interest of TriMark Technologies, Inc., a leading provider of software solutions for the life insurance industry.

In October 1998, the Company acquired the assets and assumed certain liabilities of Intrepid. The Company paid an aggregate purchase price of $51.5 million.

In May 2000 the Company acquired Advance Planning Solutions Inc (Oakland, CA). The transaction, which has been approved by the boards of both companies, is subject to customary closing conditions, including compliance with applicable regulatory requirements. The merger closed on April 30, 2000.

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OPERATION

07/25/01 Computer software development, specializing in client/server business software and services. Designs, develops, markets and supports a family of cross-industry human resource management systems, financial systems, and application development tools. The company provides maintenance, training, support, and consulting services in conjunction with sales.

Terms are negotiated, typically payment due upon completion of installation. Sells to government agencies, educational institutions, and non-profit organizations. Territory : United States and International. Nonseasonal.

EMPLOYEES: 6,929 which includes officer(s). 4,500 employed here
As of Dec 31 1999.

FACILITIES: Leases premises in a multi story glass and stucco building Occupies space on the 1st through 4th floors.

LOCATION: Suburban business section on well traveled street.

BRANCHES: This business has multiple branches, detailed branch/division information is available in Dun & Bradstreet's linkage or family tree products.

SUBSIDIARIES: As of Dec 31 1999 the subsidiaries represent the parent's services in their respective countries.

PeopleSoft France S.A., Paris, France (100%) chartered 1993.

PeopleSoft Germany, Munich, Germany (100%) chartered 1995.

PeopleSoft U.K. Limited, Reading, England (100%) chartered 1993.

PeopleSoft Mexico, S.A. de C.V., Mexico City, Mexico (100%) chartered 1995.

PeopleSoft Argentina, S.A., Buenos Aires, Argentina (100%) chartered 1994.

PeopleSoft do Brasil Ltda, Sao Paulo, Brazil (100%) chartered 1996.

PeopleSoft Japan, K.K., Tokyo, Japan (100%) chartered 1996.

PeopleSoft Iberica S.L., Madrid, Spain (100%) chartered 1996.

Peoplesoft Credit Corporation, California (100%) chartered 1997.

Peoplesoft Properties, Inc., California (100%) chartered 1997.

Peoplesoft USA, Inc., California (100%) chartered 1997.

Peoplesoft Ventures, Inc., California (100%) chartered 1997.

PSFT International Holdings C.V., the Netherlands (100%) chartered 1997.

Peoplesoft C.I. LTD, Cayman Islands (100%) chartered 1997.
Peoplesoft Schweiz A G, Switzerland.
PeopleSoft Italia Srl., Italy.
Intrepid Systems (UK) Ltd, United Kingdom.
07-26(10N /107) 99999 050114114 H
BANK: WestAmerica Bank, Walnut Creek, CA

FULL DISPLAY COMPLETE
** End of BIR **

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Refer comments or questions to customer service.

Demonstration Scripts for Vendor Demonstration

The following document illustrates samples of demonstration scripts for Enterprise Resource Planning (ERP) vendors. Such scripts are valuable tools for Lucas County to compare the performance of each ERP vendor against static criteria. The following information is an example only and should not be used without editing for specific Lucas County information and requirements.

To use the scripted demonstrations effectively:

1. Make sure to define actions unique to Lucas County.
2. Give vendors advance notice of only two to three weeks to prepare their demonstrations.
3. Expect each scripted demonstration to last three or four hours. The vendor should walk you through the demonstrations, pointing out what is happening, where data is flowing, and what the output is.
4. Each Lucas County representative at the demonstration should use the Scripted Demo Rating Sheets to measure performance of the vendor's demonstration.
5. The agenda for each scripted demonstration should include introductions, the demonstration itself, and a Question and Answer period for you to obtain more detailed information.
6. After the demonstration, have all of the Lucas County participants meet to discuss the performance of the product and any steps you should take next.

Human Resources

Scenario 1

Create two open vacancies:

1. Human Resources Representative
2. Programmer Analyst for Real Estate

Set up the following employees and their schedules:

Scenario 2

John Doe

- 12-month contract employee
- October 1, 2001 to September 30, 2002

- 26 pay periods
- Retirement benefits over 12 months at 9.42% paid monthly
- Health benefits paid monthly, deducted biweekly
- Additional earnings $100.00 each pay period, not subject to retirement benefits
- Contracted salary $50,000 per year
- Account expense information: Fund 26; Budget Function: 21630; object code: 51130; location: 940; program id 000; sub-program id: 611

Scenario 3

Jane Smith

- Part-time regular employee
- Retirement benefits contributed over 10 months at an annual rate of 11.16%; or 13.392% per pay over 20 pays, Sept. 1 – June 30.
- Health Benefits, biweekly
- $29,000 salary
- 60 hours per pay period
- Account expense information: Fund 26; Budget Function: 11110; object code: 51250; location: 137; program id 101; sub-program id: 127

Scenario 4

Joe Cobb

- Network Technician I
- Bargaining Unit
- 40 hours each week
- Retirement benefits contributed over 10 months at an annual rate of 11.16%; or 13.392% per pay over 20 pays, Sept. 1 – June 30.
- Health Benefits, biweekly over 12 months
- $36,500 salary
- Account expense information: Fund 26; Budget Function: 23220; object code: 51270; location: 834; program id 000; sub-program id: 111

Payroll

Scenario 5

Assume that a full-time Accountant position is to be filled. Interviews have been conducted and Susan M. Rice has been chosen.

Demographics:

Susan M. Rice

20 Maple Road

Toledo, OH 43064-0020

Married

Birthdate 02/01/1950

- The new employee will be classified Exempt and earn an annual salary of $38,400 to be paid biweekly ($1,476.92 gross per pay period)
- Her Benefits Base Salary is $38,400.
- The standard work week is 40 hours.
- 100% of the salary expense will be charged to Account expense information: Fund 11; Budget Function: 01515; object code: 51130; location: 001; program id 003; grant id: 0148202; sub-program id: 611.
- Susan is to start this position on the first day of the biweekly pay period.

Susan will elect Family health insurance coverage and Single coverage for dental insurance. She will also have long-term disability, deferred compensation, and Flex-med. Below are the costs associated with these benefits per pay:

- Health—Employee $110.85, Employer Contribution $110.85
- Dental—Employee $0.00, Employer Contribution $15.25
- Long-term disability is .0014 of the Benefits base Salary
- Plan 1 Deferred Compensation $50.00
- Plan 2 Deferred Compensation 10% of FICA taxable gross
- Flex-med $60.00

Additional Employer Contributions to be applied to employee record biweekly:

- Retirement calculated at 10.30% of the Benefits Base Salary to be applied to 26 pays per year.
- Group Life insurance is calculated at 2x the Benefits Base Salary.

Susan has claimed Married withholding as Single with 3 exemptions on her W-4. She has claimed 1 allowance with an additional $10.00 per pay on her VA-4 tax withholding form.

Leave is accrued 26 times per year. Susan's current accrual rate is 4 hours per pay for Annual, 5 hours per pay for Sick.

Scenario 6

Thomas A. Edison was hired on 07/01/1990 as a Detective in the Sheriff's department. He earns $40,500 year as a Non-exempt employee through 9/6/02. He received a 5% increase effective 9/7/01.

Following are the hours for pay ending 10/13/2001:

9/31/01	
10/1/01	8 Reg
10/2/01	8 Reg
10/3/01	8 Sick
10/4/01	8 Reg
10/5/01	8 Annual
10/6/01	
10/7/01	8 Reg
10/8/01	8 Reg
10/9/01	8 Reg
10/10/01	8 Reg
10/11/01	5 Annual 3 Sick
10/12/01	
10/13/01	end of pay period

Account information: Fund:11; Budget function: 88880; Object code: 13290; Location: 211; program 415; sub-program: 000

- Tax Withholdings:

  Federal Married claiming 1 exemption

  State Claiming 0 Allowances

- Insurance: None
- Deferred Compensation: $200.00
- Long term disability calculated as in Scenario 1
- Net pay: direct deposit
- $150.00 direct deposit to Savings
- $140.00 direct deposit to Credit Union

Mr. Edison has a Child Support deduction for $162.50 per pay period and a garnishment calculated at 25% of disposable income.

Grants

Scenario 7

Set up Grant Status

Open
Closed

Set up Billing Types

A—Receive funds in advance
B—Billing
C—Contract

Set up Grant Type

2—Personnel
3—Equipment

Set up Funding Agency

U. S. Department of Justice

Set up Funding Request

Monthly, Quarterly, or Annually

Set up the cost centers/account codes that can charge against this Grant

Account Codes—Budget Function

03114 – Police, Criminal Investigations

Accounts

51130 – Salary & Wages
51610 – FICA Taxes
51710 – VRS Retirement
51730 – Health Care Premiums

55110 – Supplies, Scientific
55120 – Supplies, Stationary

58311 – Equipment, Scientific
58315 – Equipment, General Purpose
58320 – Equipment, Office

Enter a Grant for the COPS UHP Supplement (6 officers)—COPS Office—which will span 3 years and is funded by the U. S. Department of Justice. There is a cap for salaries and benefits of $75,000 per officer over the life of the grant. County must provide matching funds of $25,000 per officer. The following funding allocation by year was approved as follows:

Funding Allocation:

Year 1: Appropriation for $200,000 from COPS office; $50,000 from County
Year 2: Appropriation for $150,000 from COPS office; $37,500 from County
Year 3: Appropriation for $100,000 from COPS office; $25,000 from County

All County funds are recorded as transfers from the General Fund (11) in the Grants Fund (31)

The County also appropriated $5,000 per officer (6) for initial outlays (Year 1) for field computer equipment. Demonstrate how these expenses could best be set-up to be linked as part of a cash match to this grant.

Set up a financial report with the following fields for the Grant and Project scenarios:

- Account number
- Account description
- Revised cumulative budget
- Prior year revenue/expenditure balances
- Current year balances
- Year to date info
- Life to date info

- Encumbrances
- Balance (remaining)

Purchasing

Scenario 8

Requisitioner: Bruce Stillman

Vendor: Beckley Cardy
100 Rt 10
Maumee, OH

Remit to: Lucas County
Address
Toledo, OH

Note: Invoices can be paid to either Beckley Cardy or School Specialty from a single purchase order.

Approvers: Vicki Fullman, Approval Dollar Levels—$0 to $10,000
John Smith Approval Dollar Levels—$10,001 to $29,999
Harry Jones Approval Dollar Levels—$0 to $40,000

Buyer 1 – Joan Cusack (for #100 commodity codes)
Buyer 2 – Jack Klugman (for #200 commodity codes)

Commodity Codes: 100 - Computer Equipment
200 - Textbooks

Item #s: CE22 - Monitors
CE23 – Printer

Deliver to Code:

123
9901 Lori Road
Toledo, OH 43604

456
4525 W. Hundred Road
Toledo, OH 43604

Scripted Demonstration Rating Sheets

On pages 264 to 275 we provide samples of Rating Sheets for scripted demonstrations of Enterprise Resource Planning (ERP) systems. Scripts are valuable tools for Lucas County to compare the performance of each ERP vendor against static criteria. The following sheets are examples only and should not be used without editing for specific Lucas County information and requirements.

We included an editable version of the Scripted Demonstration Rating Sheets in a separate Microsoft Excel file, titled "**LC Scripted Demo Rating Sheets.xls**."

HUMAN RESOURCES			
RATINGS: 0 = Did not demo, 1 = Did not meet expectations, 2 = Met expectations, 3 = Exceeded expectations			
Description	**LAWSON**	**ORACLE**	**PEOPLESOFT**
On-line personnel requisition using workflow			
Applicants fill out applications on-line			
HR Manager reviews applications, schedules interview, records comments, and recommend hiring			
Produce "No thanks" letter			
New hire process - transfer relevant data, enter addition data - contract, salary, account			
Security set-up of new hire			
Workflow set-up of new hire			
New hire enrollment - ESS			
Position control data			
Project salary expense for 3% 12/1 increase			
Appraisal process for review using workflow			
Change W-4 and 403b - perform "what if"			
Adding dependant			

SCHOOL PAYROLL			
RATINGS: 0 = Did not demo, 1 = Did not meet expectations, 2 = Met expectations, 3 = Exceeded expectations			
Description	**LAWSON**	**ORACLE**	**PEOPLESOFT**
Employee pay set-up, contract, account, extra jobs			
Run payroll - print/e-mail stub			
Sample payroll reports, retirement contributions			
Process merit increases for different contract types			
Additional items			
Training registration through ESS, confirmation, history review			
Establish new position classification			
Competency-based management for performance appraisal			
Salary history and position history			
T/A School			
Entry of 80 hours when 69 hours in pay period - what happens?			
Insufficient leave balance to cover absence			
Employee start after contract begins			
Employee/Substitute - does system handle/report			
Non-contractual - automated workflow			
Retiree leave pay-out			
Subfinder system			
Will system interface with Subfinder?			
What experience with interfacing with Subfinder			

COUNTY PAYROLL			
RATINGS: 0 = Did not demo, 1 = Did not meet expectations, 2 = Met expectations, 3 = Exceeded expectations			
Description	**LAWSON**	**ORACLE**	**PEOPLESOFT**
Employee initial records			
Benefits enrollment - health, dental, deferred comp, flex spending, tax, direct deposit			
Imputed income for life insurance			
First paycheck			
Time entry (T/A) flow to paycheck			
Cash award on separate check			
Firefighter schedule set-up			
T/A entry for firefighter			
Payroll run and reports, Register of hours, tax, deductions, acct distribution, hours/dollar balances			
Payroll posting to G/L, drill down			
Other items			
System maintenance requirements at month end, QTR end, Fiscal year end, calendar year end			
Pay tables set-up - earnings, deductions, direct deposit, benefits, etc			
Create a report - salaries at a location			

GENERAL FUNCTIONALITY			
RATINGS: 0 = Did not demo, 1 = Did not meet expectations, 2 = Met expectations, 3 = Exceeded expectations			
Description	**LAWSON**	**ORACLE**	**PEOPLESOFT**
Set up user defined field			
Modify look/feel of screens - change label, reorder, hide field, add user field			
Create and modify a report			
Add new filed to table or add new table and hook to screens			
Demonstrate workflow tools and modify workflow			
Customize user menus, preference settings, improve workflow			
Position Control			
No duplicate position numbers			
Link Positions numbers to budget codes			
"Pick List" abilities			
Establish a not to exceed number of FTEs within a fund - notification			
Track vacant positions - project salary/benefits for vacancies			
Budgeting			
Share budgets on-line			
Import budgets from Excel			
Multi-year budgets			
Capital Projects - overlap of years			
Distribution/routing to users			
Demo 2 department budgets			
Fund level roll-ups			
Extract for final Budget document			
Payroll/Budget			
Accounts not set up - notification/error			
GL payroll entries on reports at entry time rather than effective date			
Payroll detail & summary reports on-line			
Salary, benefits and FICA updated in Position Control when a salary is changed			
Salary entries prevented from posting to non-salary accounts			
Set up budget codes - auto set up of appropriation, expense, and encumbrance			

BUDGET			
RATINGS: 0 = Did not demo, 1 = Did not meet expectations, 2 = Met expectations, 3 = Exceeded expectations			
Description	**LAWSON**	**ORACLE**	**PEOPLESOFT**
Project number of FTEs and cost from membership and staffing projections			
Calculate estimated substitute FTEs and cost from prior year actuals			
Calculates estimated benefits cost and FICA			
Calculate budgets based on student membership and multiple material allocations			
Merge Position Control data and Expenditures into a budget			
Compile, submit, update, resubmit budget			
Approve final budget			
System perform "what if" scenarios			
Process a budget change using workflow			
Demonstrated predetermined controls - security and edit rules			
Validate compliance of predetermined controls			
Show to-do list/notifications from workflow			
On-line documentation/confirmation of change approval			
Projected year-end status of accounts for departments using current actuals + projections			
Print/e-mail projections			
Projections using "as of" dates			
View/report budgeted Vs actuals with drill downs			
Budget code changes - change history also?			
Workflow process for non-contractuals			
Additional items			
Across the board pay raises - system upgrade/update individual salary			
Substitute dollars based on prior year and a per teacher factor			
Benefit rate changes			
Revenues			
State revenues based on various criteria and formulae			

GRANTS			
RATINGS: 0 = Did not demo, 1 = Did not meet expectations, 2 = Met expectations, 3 = Exceeded expectations			
Description	**LAWSON**	**ORACLE**	**PEOPLESOFT**
Control Grant set-up			
Year-level set-up			
Recording of appropriations for one year			
Establish controls for salary/benefits cap for life of grant			
Budget change to increase County match of 3rd year			
Budgetary control prevention of exceeding budget			
Manger query on grants			
Grant query on combined budget and expenditures			
Police Department grant report			
Notification of salary/benefits cap			
2 line requisition for multiple grants			
View grant encumbrances			
View available grant funds			
Route requisition for approval			
Receipt of supplies via scanning			
Route invoice for approval			
Process check run to include grant invoice			
Additional item			
Entry posting in two fiscal years			

PROJECT ACCOUNTING			
RATINGS: 0 = Did not demo, 1 = Did not meet expectations, 2 = Met expectations, 3 = Exceeded expectations			
Description	**LAWSON**	**ORACLE**	**PEOPLESOFT**
Entry of a construction project with sub-projects			
Purchase order for construction architect with retainage			
Receipt of architect invoice			
Retainage pay out once work is completed			
Additional Items			
Inquire multiple contracts			
View invoices paid against a PO			
Process a change order against a contract			
Project the final cost of a project with change orders pending			
Tracking of budget changes			
Partially close project with outstanding expenditures			
Requisition bond proceeds from a trustee			
Indicate reported to trustee and what funding source will be reimbursed			
Reporting for expenditures which need to receive reimbursement			
Run a financial project report			
Query original project budget and transactions that modified L-T-D budget			

PURCHASING			
RATINGS: 0 = Did not demo, 1 = Did not meet expectations, 2 = Met expectations, 3 = Exceeded expectations			
Description	**LAWSON**	**ORACLE**	**PEOPLESOFT**
Requisition entered for textbooks			
Requisition routed for approval and to buyer			
Convert requisition to PO - View encumbrance			
Receipt of textbooks			
Receipt of invoice remit payment			
Receive remaining books and manuals			
Remit payment			
Requisition entered for printers and monitors			
Route lines for appropriate approval, route to buyer, create POs			
Receive items, record damage			
Receive invoice with tolerance exceeded			
Additional items			
Requisition with formal bid			
Reroute a requisition to a different buyer			
Show alternative tolerances			
Create a blanket PO with controls			
Create a report for dollars spent for specific type vendors			
Create a report for dollars spent for specific commodity			
Create a requisition turnaround report			
Create a PO in current fiscal year for next fiscal year			

ACCOUNTS PAYABLE			
RATINGS: 0 = Did not demo, 1 = Did not meet expectations, 2 = Met expectations, 3 = Exceeded expectations			
Description	**LAWSON**	**ORACLE**	**PEOPLESOFT**
Recurring payment entry			
Create invoices for recurring payment and show encumbrances			
Cancel lease at mid-year			
Cash advance entry and expense report on advance			
Additional items			
Vendor set-up			
Invoice entry for a closed PO			
Account distribution change to invoice after posted to GL			
Work-flow approval of new vendor set-up			
Discount distribution across multiple expense lines			
Void check for a closed period and reissue			
Payments against different bank accounts			
Query items			
Invoices paid to vendor			
Utility bill account research			

FINANCIAL GENERAL FUNCTIONALITY			
RATINGS: 0 = Did not demo, 1 = Did not meet expectations, 2 = Met expectations, 3 = Exceeded expectations			
Description	**SAP**	**ORACLE**	**LAWSON**
Set up user defined field			
Modify look/feel of screens - change label, reorder, hide field, add user field			
Create and modify a report			
Add new filed to table or add new table and hook to screens			
Demonstrate workflow tools and modify workflow			
Customize user menus, preference settings, improve workflow			
Explain system created balance entries in G/L such as FICA, maintenance require for new account			

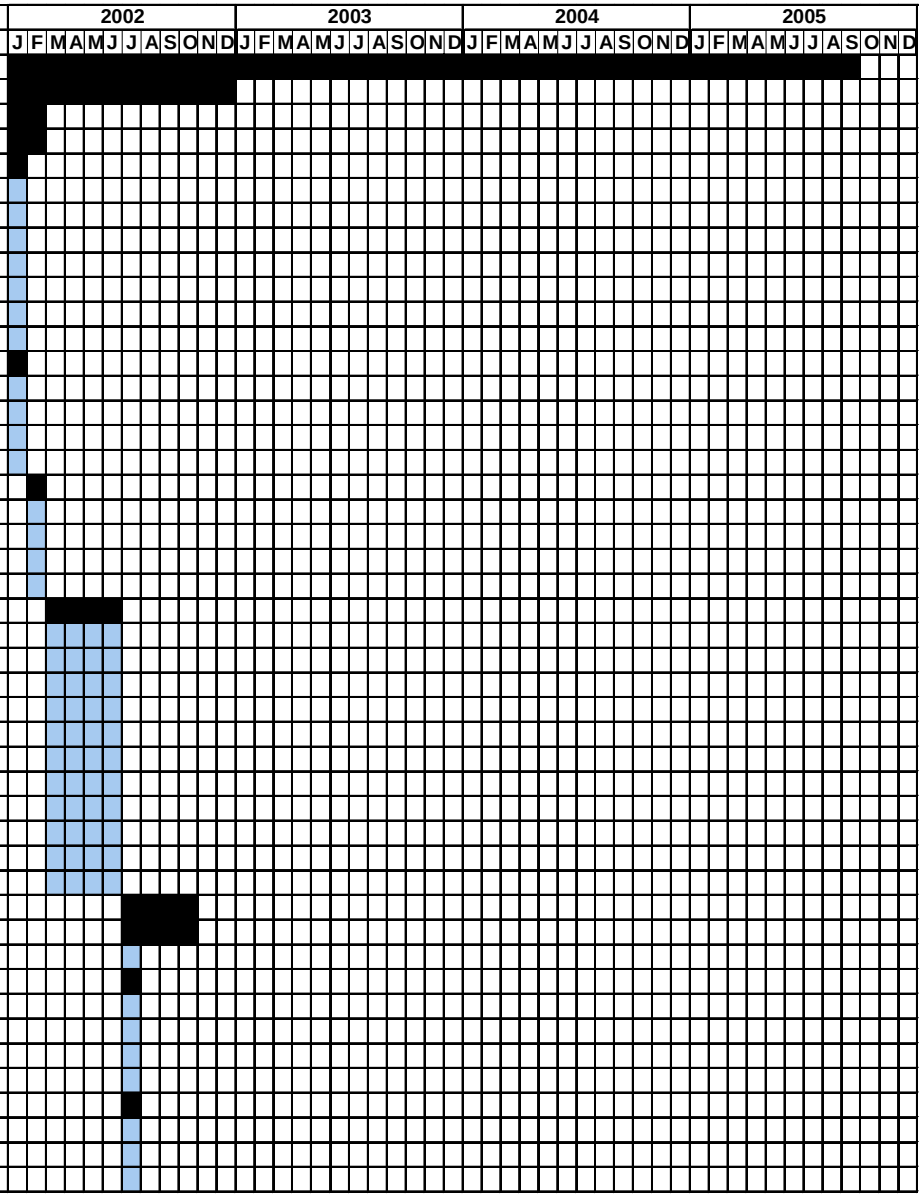
GENERAL LEDGER			
RATINGS: 0 = Did not demo, 1 = Did not meet expectations, 2 = Met expectations, 3 = Exceeded expectations			
Description	**LAWSON**	**ORACLE**	**PEOPLESOFT**
Set-up new account and center			
New account added to budgetary control			
"Turn off" fund checking			
Journal Entry for new account, funds checking and posting to G/L			
Departmental JE and routing for approval and posting			
Report distribution to multiple departments			
Import file and post to G/L			
Demonstrate 2 year open for L-T-D fund			
Inquiry on L-T-D balances and Y-T-D balances on a L-T-D fund			
Reconcile 6/30 encumbrance balances to POs on 7/31			
Demonstrate how due to/due from functionality works			
Reporting from G/L			
Show how a cash ledger and accrual ledger can be maintained for GAAP reporting			
Develop and produce summary level reports			
Show queries/report can be done from non-consecutive segments of account code			

TREASURER'S OFFICE			
RATINGS: 0 = Did not demo, 1 = Did not meet expectations, 2 = Met expectations, 3 = Exceeded expectations			
Description	**LAWSON**	**ORACLE**	**PEOPLESOFT**
Set-up of vendor payments through ACH			
Re-issuance of payroll check after W-2 issued			
Manual check process			
Payroll reports for different pay groups and integration with G/L			
Bank account reconciliation			
Max limit on cash accounts			
Max limit on paying agents/banks to issue checks, easy to switch paying agents			
Account for multiple investment activities but show one investment total			
Cash receipt processing			

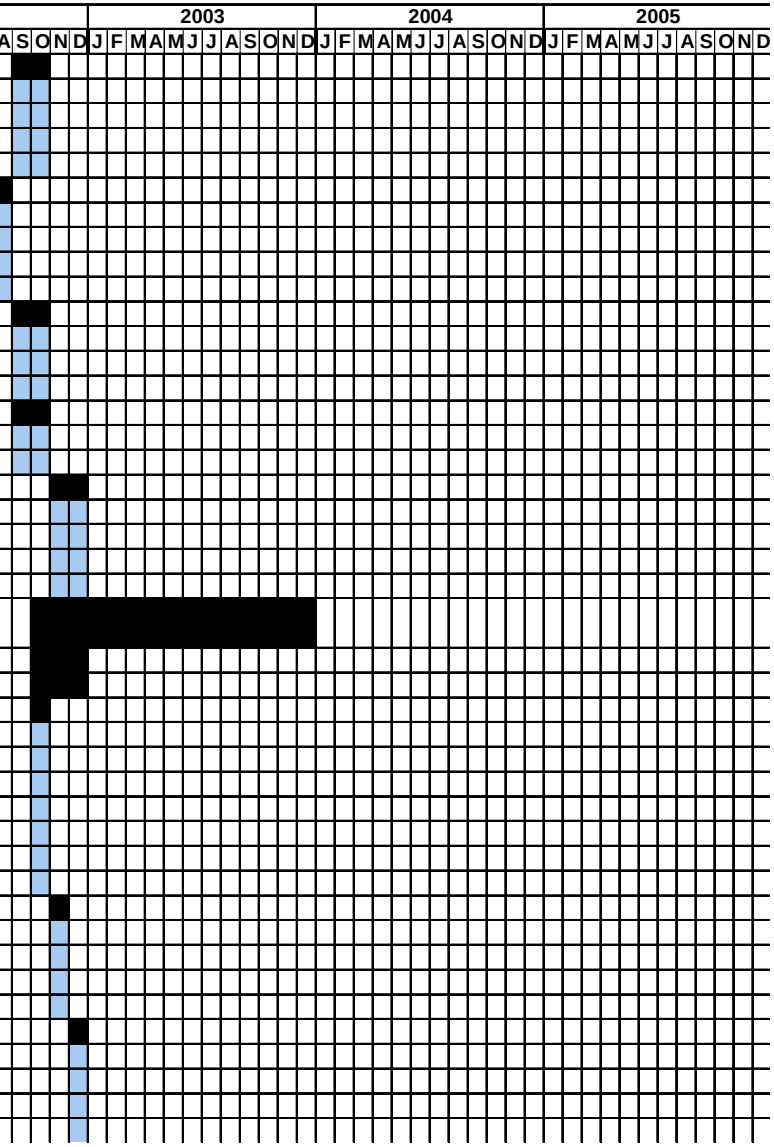
Lucas County ERP Implementation—Project Plan

The following six pages illustrate our recommendation for a project plan for Lucas County's ERP implementation project. The County's ERP Project Team should use the plan as a guide to identify appropriate phases and resource requirements. As Lucas County begins its implementation, the Project Team will need to identify additional task and resource assignments. This is typically done in the planning portion of each phase.

ID	TASK	START	END
1	**Lucas County ERP Implementation Project Plan**	**1/1/02**	**9/30/05**
2	**Phase I Implementation - HR/PR/GL**	**1/1/02**	**12/27/02**
3	**Phase I - Planning and Design**	**1/1/02**	**3/1/02**
4	**Project Kickoff**	**1/1/02**	**3/1/02**
5	**Project Planning and Control**	**1/1/02**	**1/18/02**
6	Project Team Structure	1/1/02	1/18/02
7	Implementation Approach	1/1/02	1/18/02
8	Project Administration	1/1/02	1/18/02
9	Application Modification Tracking	1/1/02	1/18/02
10	Environment Architecture	1/1/02	1/18/02
11	Define Project Scope	1/1/02	1/18/02
12	Project Plan	1/1/02	1/18/02
13	**Business Requirements Gathering**	**1/21/02**	**2/8/02**
14	HR Business Requirements	1/21/02	2/8/02
15	Benefits Business Requirements	1/21/02	2/8/02
16	Payroll Business Requirements	1/21/02	2/8/02
17	GL Business Requirements	1/21/02	2/8/02
18	**Gap Analysis**	**2/11/02**	**3/1/02**
19	HR Gap Analysis	2/11/02	3/1/02
20	Benefits Gap Analysis	2/11/02	3/1/02
21	Payroll Gap Analysis	2/11/02	3/1/02
22	GL Gap Analysis	2/11/02	3/1/02
23	**Phase II - Design and Development**	**3/4/02**	**7/5/02**
24	Develop HR Prototype	3/4/02	7/5/02
25	Develop Benefits Prototype	3/4/02	7/5/02
26	Develop Payroll Prototype	3/4/02	7/5/02
27	Develop GL Prototype	3/4/02	7/5/02
28	Conversion Program Specifications	3/4/02	7/5/02
29	Customization Specifications	3/4/02	7/5/02
30	Report Specifications	3/4/02	7/5/02
31	Define Operator Security	3/4/02	7/5/02
32	Fixes - Apply and Test	3/4/02	7/5/02
33	Develop Data Conversion Programs	3/4/02	7/5/02
34	Develop Reports	3/4/02	7/5/02
35	**Phase III - Conversion**	**7/8/02**	**11/8/02**
36	**Testing**	**7/8/02**	**11/8/02**
37	Write detailed test plan	7/8/02	8/16/02
38	**System Testing**	**7/8/02**	**9/6/02**
39	HR System Testing	7/8/02	9/6/02
40	Benefits System Testing	7/8/02	9/6/02
41	Payroll System Testing	7/8/02	9/6/02
42	GL System Testing	7/8/02	9/6/02
43	**Performance / Infrastructure Testing**	**7/8/02**	**9/6/02**
44	Site Rollout Testing	7/8/02	9/6/02
45	Backup and Recovery Testing	7/8/02	9/6/02
46	Process Scheduler Testing	7/8/02	9/6/02



ID	TASK	START	END
47	**End User Acceptance Testing**	**9/9/02**	**11/8/02**
48	HR End User Acceptance Testing	9/9/02	11/8/02
49	Benefits End User Acceptance Testing	9/9/02	11/8/02
50	Payroll End User Acceptance Testing	9/9/02	11/8/02
51	GL End User Acceptance Testing	9/9/02	11/8/02
52	**Complete User Documentation**	**7/8/02**	**9/6/02**
53	HR End User Documentation	7/8/02	9/6/02
54	Benefits End User Documentation	7/8/02	9/6/02
55	Payroll End User Documentation	7/8/02	9/6/02
56	GL End User Documentation	7/8/02	9/6/02
57	**End-User Training**	**9/9/02**	**11/8/02**
58	Write Detailed Training Plan	9/9/02	11/8/02
59	Prepare Training Workstation	9/9/02	11/8/02
60	Conduct Training	9/9/02	11/8/02
61	**Application Deployment**	**9/9/02**	**11/8/02**
62	Prepare User Workstations	9/9/02	11/8/02
63	Write Detailed Deployment Plan	9/9/02	11/8/02
64	**Phase IV - Migration**	**11/11/02**	**12/27/02**
65	Write Detailed Migration Plan	11/11/02	12/27/02
66	Table Migration Scripts	11/11/02	12/27/02
67	Perform Production Migration	11/11/02	12/27/02
68	Production Live Processing	11/11/02	12/27/02
69	**Phase II Implementation - GL/Purchasing/Payables/Receivables**	**9/30/02**	**12/26/03**
70	**Phase I - Planning and Design**	**9/30/02**	**1/10/03**
71	**Project Kickoff**	**9/30/02**	**1/10/03**
72	**Project Planning and Control**	**9/30/02**	**10/25/02**
73	Project Team Structure	9/30/02	10/25/02
74	Implementation Approach	9/30/02	10/25/02
75	Project Administration	9/30/02	10/25/02
76	Application Modification Tracking	9/30/02	10/25/02
77	Environment Architecture	9/30/02	10/25/02
78	Define Project Scope	9/30/02	10/25/02
79	Project Plan	9/30/02	10/25/02
80	**Business Requirements Gathering**	**10/28/02**	**11/29/02**
81	GL Business Requirements	10/28/02	11/29/02
82	Purchasing Business Requirements	10/28/02	11/29/02
83	Payables Business Requirements	10/28/02	11/29/02
84	Receivables Business Requirements	10/28/02	11/29/02
85	**Gap Analysis**	**12/2/02**	**1/10/03**
86	GL Gap Analysis	12/2/02	1/10/03
87	Purchasing Gap Analysis	12/2/02	1/10/03
88	Payables Gap Analysis	12/2/02	1/10/03
89	Receivables Gap Analysis	12/2/02	1/10/03



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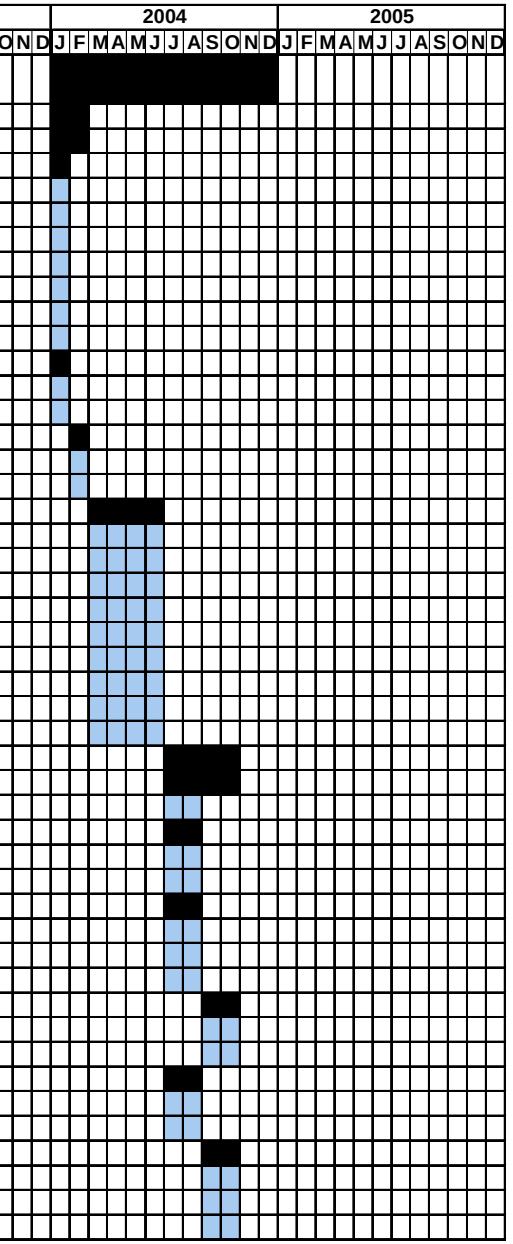
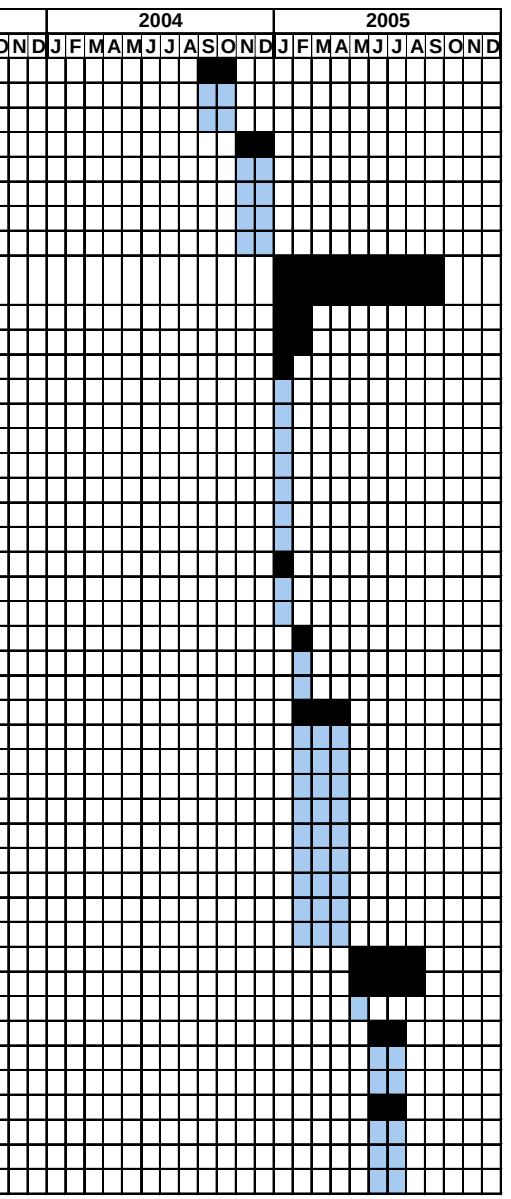
90	**Phase II - Design and Development**	**1/13/03**	**8/8/03**																																															
91	Develop GL Prototype	1/13/03	8/8/03																																														
92	Develop Purchasing Prototype	1/13/03	8/8/03																																														
93	Develop Payables Prototype	1/13/03	8/8/03																																														
94	Develop Receivables Prototype	1/13/03	8/8/03																																														
95	Conversion Program Specifications	1/13/03	8/8/03																																														
96	Customization Specifications	1/13/03	8/8/03																																														
97	Report Specifications	1/13/03	8/8/03																																														
98	Define Operator Security	1/13/03	8/8/03																																														
99	Fixes - Apply and Test	1/13/03	8/8/03																																														
100	Develop Data Conversion Programs	1/13/03	8/8/03																																														
101	Develop Reports	1/13/03	8/8/03																																														
102	**Phase III - Conversion**	**4/28/03**	**11/21/03**																																														
103	**Testing**	**4/28/03**	**11/21/03**																																														
104	Write detailed test plan	4/28/03	7/18/03																																														
105	**System Testing**	**8/11/03**	**11/21/03**																																														
106	GL System Testing	8/11/03	11/21/03																																														
107	Purchasing System Testing	8/11/03	11/21/03																																														
108	Payables System Testing	8/11/03	11/21/03																																														
109	Receivables System Testing	8/11/03	11/21/03																																														
110	**Performance / Infrastructure Testing**	**8/11/03**	**11/21/03**																																														
111	Site Rollout Testing	8/11/03	11/21/03																																														
112	Backup and Recovery Testing	8/11/03	11/21/03																																														
113	Process Scheduler Testing	8/11/03	11/21/03																																														
114	**End User Acceptance Testing**	**8/11/03**	**11/21/03**																																														
115	GL End User Acceptance Testing	8/11/03	11/21/03																																														
116	Purchasing End User Acceptance Testing	8/11/03	11/21/03																																														
117	Payables End User Acceptance Testing	8/11/03	11/21/03																																														
118	Receivables End User Acceptance Testing	8/11/03	11/21/03																																														
119	**Complete User Documentation**	**8/11/03**	**11/21/03**																																														
120	GL End User Documentation	8/11/03	11/21/03																																														
121	Purchasing End User Documentation	8/11/03	11/21/03																																														
122	Payables End User Documentation	8/11/03	11/21/03																																														
123	Receivables End User Documentation	8/11/03	11/21/03																																														
124	**End-User Training**	**8/11/03**	**11/21/03**																																														
125	Write Detailed Training Plan	8/11/03	11/21/03																																														
126	Prepare Training Workstation	8/11/03	11/21/03																																														
127	Conduct Training	8/11/03	11/21/03																																														
128	**Application Deployment**	**8/11/03**	**11/21/03**																																														
129	Prepare User Workstations	8/11/03	11/21/03																																														
130	Write Detailed Deployment Plan	8/11/03	11/21/03																																														
131	**Phase IV - Migration**	**11/24/03**	**12/26/03**																																														
132	Write Detailed Migration Plan	11/24/03	12/26/03																																														
133	Table Migration Scripts	11/24/03	12/26/03																																														
134	Perform Production Migration	11/24/03	12/26/03																																														
135	Production Live Processing	11/24/03	12/26/03																																														

ID	TASK	START	END
136	**Phase III Implementation - Fixed Assets and Tax Accounting**	**12/30/03**	**12/24/04**
137	**Phase I - Planning and Design**	**12/30/03**	**2/27/04**
138	**Project Kickoff**	**12/30/03**	**2/27/04**
139	**Project Planning and Control**	**12/30/03**	**1/16/04**
140	Project Team Structure	12/30/03	1/16/04
141	Implementation Approach	12/30/03	1/16/04
142	Project Administration	12/30/03	1/16/04
143	Application Modification Tracking	12/30/03	1/16/04
144	Environment Architecture	12/30/03	1/16/04
145	Define Project Scope	12/30/03	1/16/04
146	Project Plan	12/30/03	1/16/04
147	**Business Requirements Gathering**	**1/19/04**	**2/6/04**
148	Fixed Assets Business Requirements	1/19/04	2/6/04
149	Tax Accounting Business Requirements	1/19/04	2/6/04
150	**Gap Analysis**	**2/9/04**	**2/27/04**
151	Fixed Assets Gap Analysis	2/9/04	2/27/04
152	Tax Accounting Gap Analysis	2/9/04	2/27/04
153	**Phase II - Design and Development**	**3/1/04**	**7/2/04**
154	Develop Fixed Assets Prototype	3/1/04	7/2/04
155	Develop Tax Accounting Prototype	3/1/04	7/2/04
156	Conversion Program Specifications	3/1/04	7/2/04
157	Customization Specifications	3/1/04	7/2/04
158	Report Specifications	3/1/04	7/2/04
159	Define Operator Security	3/1/04	7/2/04
160	Fixes - Apply and Test	3/1/04	7/2/04
161	Develop Data Conversion Programs	3/1/04	7/2/04
162	Develop Reports	3/1/04	7/2/04
163	**Phase III - Conversion**	**7/5/04**	**11/5/04**
164	**Testing**	**7/5/04**	**11/5/04**
165	Write detailed test plan	7/5/04	8/13/04
166	**System Testing**	**7/5/04**	**9/3/04**
167	Fixed Assets System Testing	7/5/04	9/3/04
168	Tax Accounting System Testing	7/5/04	9/3/04
169	**Performance / Infrastructure Testing**	**7/5/04**	**9/3/04**
170	Site Rollout Testing	7/5/04	9/3/04
171	Backup and Recovery Testing	7/5/04	9/3/04
172	Process Scheduler Testing	7/5/04	9/3/04
173	**End User Acceptance Testing**	**9/6/04**	**11/5/04**
174	Fixed Assets End User Acceptance Testing	9/6/04	11/5/04
175	Tax Accounting End User Acceptance Testing	9/6/04	11/5/04
176	**Complete User Documentation**	**7/5/04**	**9/3/04**
177	Fixed Assets End User Documentation	7/5/04	9/3/04
178	Tax Accounting End User Documentation	7/5/04	9/3/04
179	**End-User Training**	**9/6/04**	**11/5/04**
180	Write Detailed Training Plan	9/6/04	11/5/04
181	Prepare Training Workstation	9/6/04	11/5/04
182	Conduct Training	9/6/04	11/5/04



ID	TASK	START	END
183	**Application Deployment**	**9/6/04**	**11/5/04**
184	Prepare User Workstations	9/6/04	11/5/04
185	Write Detailed Deployment Plan	9/6/04	11/5/04
186	**Phase IV - Migration**	**11/8/04**	**12/24/04**
187	Write Detailed Migration Plan	11/8/04	12/24/04
188	Table Migration Scripts	11/8/04	12/24/04
189	Perform Production Migration	11/8/04	12/24/04
190	Production Live Processing	11/8/04	12/24/04
191	**Phase IV Implementation - Data Warehousing/Mining and GIS Integration**	**1/3/05**	**9/30/05**
192	**Phase I - Planning and Design**	**1/3/05**	**2/11/05**
193	**Project Kickoff**	**1/3/05**	**2/11/05**
194	**Project Planning and Control**	**1/3/05**	**1/14/05**
195	Project Team Structure	1/3/05	1/14/05
196	Implementation Approach	1/3/05	1/14/05
197	Project Administration	1/3/05	1/14/05
198	Application Modification Tracking	1/3/05	1/14/05
199	Environment Architecture	1/3/05	1/14/05
200	Define Project Scope	1/3/05	1/14/05
201	Project Plan	1/3/05	1/14/05
202	**Business Requirements Gathering**	**1/17/05**	**1/28/05**
203	Data Warehousing/Mining Business Requirements	1/17/05	1/28/05
204	GIS Integration Business Requirements	1/17/05	1/28/05
205	**Gap Analysis**	**1/31/05**	**2/11/05**
206	Data Warehousing/Mining Gap Analysis	1/31/05	2/11/05
207	GIS Integration Gap Analysis	1/31/05	2/11/05
208	**Phase II - Design and Development**	**2/14/05**	**5/6/05**
209	Develop Data Warehousing/Mining Prototype	2/14/05	5/6/05
210	Develop GIS Integration Prototype	2/14/05	5/6/05
211	Conversion Program Specifications	2/14/05	5/6/05
212	Customization Specifications	2/14/05	5/6/05
213	Report Specifications	2/14/05	5/6/05
214	Define Operator Security	2/14/05	5/6/05
215	Fixes - Apply and Test	2/14/05	5/6/05
216	Develop Data Conversion Programs	2/14/05	5/6/05
217	Develop Reports	2/14/05	5/6/05
218	**Phase III - Conversion**	**5/9/05**	**8/26/05**
219	**Testing**	**5/9/05**	**8/26/05**
220	Write detailed test plan	5/9/05	6/3/05
221	**System Testing**	**6/6/05**	**7/15/05**
222	Data Warehousing/Mining System Testing	6/6/05	7/15/05
223	GIS Integration System Testing	6/6/05	7/15/05
224	**Performance / Infrastructure Testing**	**6/6/05**	**7/15/05**
225	Site Rollout Testing	6/6/05	7/15/05
226	Backup and Recovery Testing	6/6/05	7/15/05
227	Process Scheduler Testing	6/6/05	7/15/05



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228	**End User Acceptance Testing**	**7/18/05**	**8/26/05**																																																
229	Data Warehousing/Mining End User Acceptance Testing	7/18/05	8/26/05																																															
230	GIS Integration End User Acceptance Testing	7/18/05	8/26/05																																															
231	**Complete User Documentation**	**7/18/05**	**8/26/05**																																														
232	Data Warehousing/Mining End User Documentation	7/18/05	8/26/05																																															
233	GIS Integration End User Documentation	7/18/05	8/26/05																																														
234	**End-User Training**	**7/18/05**	**8/26/05**																																														
235	Write Detailed Training Plan	7/18/05	8/26/05																																														
236	Prepare Training Workstation	7/18/05	8/26/05																																														
237	Conduct Training	7/18/05	8/26/05																																														
238	**Application Deployment**	**7/18/05**	**8/26/05**																																														
239	Prepare User Workstations	7/18/05	8/26/05																																														
240	Write Detailed Deployment Plan	7/18/05	8/26/05																																														
241	**Phase IV - Migration**	**8/29/05**	**9/30/05**																																														
242	Write Detailed Migration Plan	8/29/05	9/30/05																																														
243	Table Migration Scripts	8/29/05	9/30/05																																														
244	Perform Production Migration	8/29/05	9/30/05																																														
245	Production Live Processing	8/29/05	9/30/05																																														